

THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 15 No. 9

Lisbon, North Dakota, March 15, 1914

50 Cents A Year

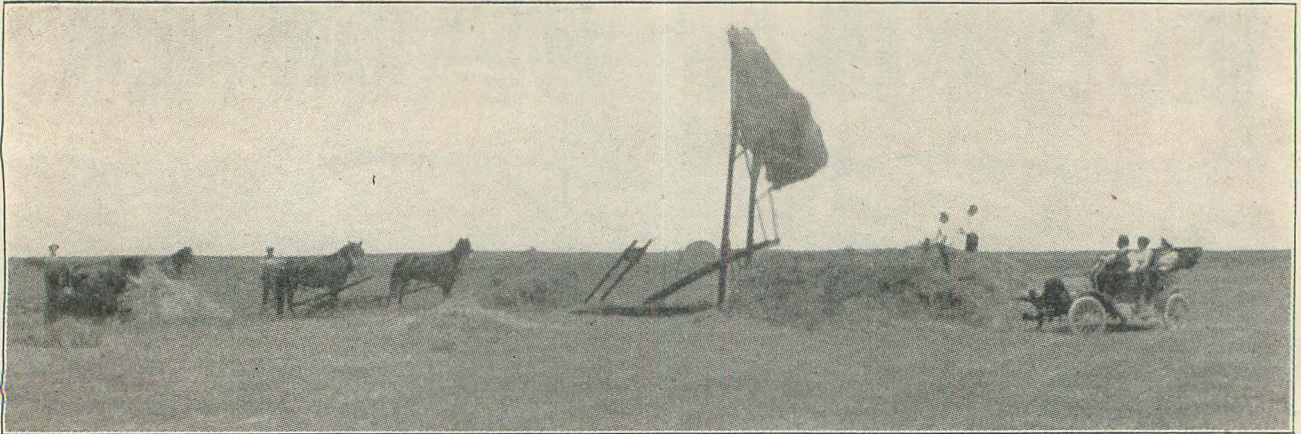
FARMING HAS A FUTURE, a great variety of work, wage-earning capacity, independence, social attractions and health assurance. I value these reasons in the order named. The work on a farm changes with the different seasons and each season has its variety. In comparison with the wages earned in the city, the farmer's pay is meager indeed, but, again in comparison, it will go twice as far. Practically speaking, the farmer is dependent on no one. The farm is a world in itself. It has its work and also its contentment. Is this not happiness in itself? Lastly, but not least in importance, is health, the key to happiness. The farm not only gives but also preserves this valuable asset.

—Fred Weigle in Prize Winning Paper.

978.4

N814

Graham



Scene in Alfalfa Valley

IN THE FAMOUS MOUSE RIVER LOOP

The Alfalfa Valley is located in McHenry County, North Dakota, South of Towner, the county seat and near Karlsruhe, Rangely, etc., on the Fargo-Surrey Line of the Great Northern, also tributary to new towns on the Devils Lake-Drake extension of the Soo Ry.

Level, well located, good land for diversified farming and stock raising, with excellent markets, churches, schools, etc., also telephones and rural mail service to portions of the Valley.

A NEW COUNTRY AWAITING NEW FARMERS WITH A GREAT DEVELOPMENT IN PROSPECT.

THE CATTLE MAN'S PARADISE

In the old range days thousands of dollars have been made in cattle in the Alfalfa Valley. Greater opportunities exist at the present time for livestock raising on a smaller scale. With the thick growth of native hay thruout the valley—with the thousands of acres of excellent pasture and the unlimited supply of pure water at from 8 to 20 feet, stock-raising, dairying, etc., is one of the most profitable industries that can be engaged in. Beef is the source of the greatest revenue. It is an ever necessary product and the demand is far exceeding the supply.

SUB-IRRIGATION - - ALFALFA - CORN

The entire Alfalfa Valley is underlaid with an unlimited supply of pure water, obtained from 8 to 20 feet. The land is sub-irrigated, which makes it especially adapted to alfalfa. Corn does exceptionally well also other grains essential in connection with the livestock industry. Crops on sub-irrigated land are practically immune from drought, no matter how dry the season. Nature furnishes a rainfall of about 23 inches annually in the Alfalfa Valley, as well as a permanent supply of water below the roots in case the rain does not occur at the proper time.

\$25 and \$30 ^{PER} ACRE and 20 YEARS TO PAY FOR THE LAND

Regular terms, one-fourth down and the balance to suit purchaser. An excellent investment, which, with the settlement and development of the Alfalfa Valley, will increase rapidly in value.

To farmers who purchase and move on to the land this year—\$2 per acre down and the balance in nineteen equal annual payments interest 6 per cent.

Cut out coupon and mail today for full particulars

ALFALFA VALLEY LAND CO.
Towner, N. D.

Dear Sir:

Please send me literature and full details concerning your lands.

Name.....

P. O.

State.....

**The ALFALFA VALLEY
LAND COMPANY**

TOWNER, - NORTH DAKOTA

THE NORTH DAKOTA FARMER

Vol. 15, No. 9

LISBON N. D., MARCH 15, 1914

50 Cents a Year

Potato Diseases and Their Treatment

By Richard Swanson, Grafton High School

There are many diseases that attack the potato which if let continue will become a serious drain upon the farmers' income. Among these are early blight, late blight, brown rot, and potato scab.

Potato leaf blight or early blight is a very destructive disease. It appears on the leaves as grayish brown spots, which soon become hard and brittle. The disease progresses slowly until most of the leaves have turned brown and withered. The stems may then die from want of nourishment. The tubers stop growing as soon as

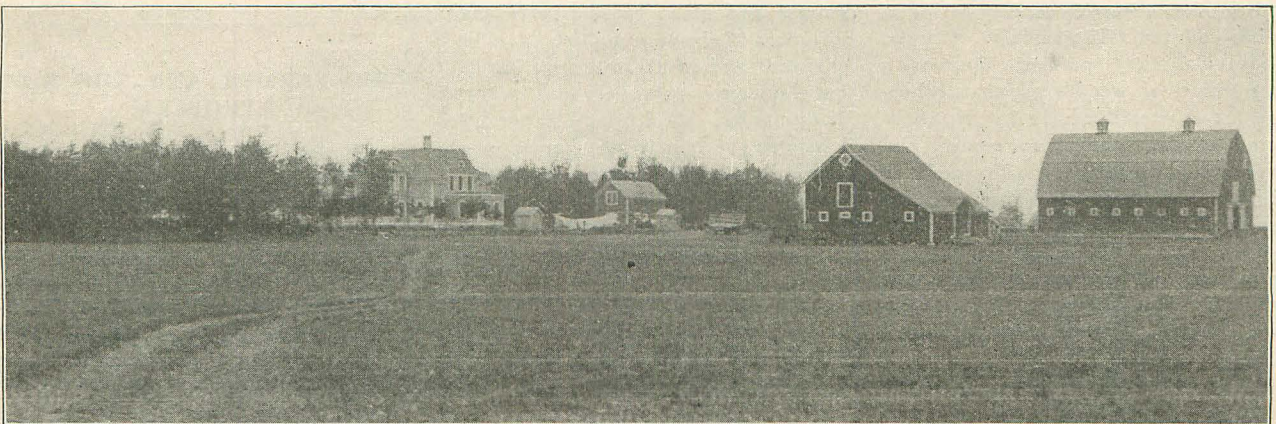
vorable to the spread of the disease. Where the temperature exceed 77 degrees for a few days at a time the disease will be checked. The affected tubers show dark colored areas on the surface while within are streaks, brownish or blackish in color.

Brown rot of potatoes occurs in the south. It attacks the leaves and tubers, first showing itself by a wilting of the foliage. Soon the whole plant becomes affected, shrivels up and turns brown or black. The disease reaches the tubers thru the stems, producing a discoloration of the tissues and a

A protracted period of drouth will have the same effect.

Treatment

The most effective way of treating early blight, late blight, brown rot, and tip burn, is by the application of the fungicide, Bordeaux mixture. To make this pour into a barrel 25 gallons of water; weigh out 5 pounds of crushed blue-stone, (copper sulphate); place in a coarse bag and suspend in the water. In another vessel slack 5 pounds of lime. Slack the lime carefully, adding small quantities of



"Nothing adds more to the improvement of the landscape than trees that line the high ways or that cluster protectingly about the farm buildings"

the leaves have been attacked, making the crop almost valueless.

Potato late blight or rot attacks the leaves stems and tubers. When first the disease becomes noticeable there are brownish or blackish spots, which soon become soft and foul smelling. The spread of the disease is very rapid. A field that is one day green and healthy looking may be black and withered the next. The cause of the disease is a parasitic fungus. Their growth is dependent upon the weather conditions. A temperature of 72 to 74 degrees F. accompanied by moist weather, are the conditions fa-

complete breaking down or rotting of all parts. Insects such as beetles are carriers of the disease. The insects feed on diseased plants and in their visits to other plants that are healthy infect them.

Potato scab may be caused by injuries but is chiefly due to a parasitic fungus. The potatoes have a scaly and rough appearance, which makes them very unsightly.

Tip burn, leaf burn or scald, is caused by unfavorable soil or climatic conditions. Cloudy damp weather followed by a period of excessive heat will likely cause tip burn.

water at a time. When the lime is slacked add water to make 25 gallons. When the copper sulphate is dissolved pour the lime and copper sulphate at the same time into a third barrel. If insufficient lime is used in this mixture the foliage will be injured. To test the mixture hold a steel knife blade in the mixture for a few minutes. If it shows a tinge of copper more lime should be added. The mixture should be applied when the plants are from four to six inches high and should be repeated at intervals of from ten to fourteen days until five or six treatments are given. By adding

eight ounces of Paris green to each barrel of the mixture the insect pests may be killed at the same time. The mixture should be applied with a good spray.

For the treatment of scab two fungicides are used, corrosive sublimate, and formalin solutions. To prepare the first dissolve two and one-half ounces of corrosive sublimate in two gallons of hot water and after ten or

twelve hours add water to make fifteen gallons. To prepare the formalin solution mix eight fluid ounces of commercial formalin (40% solution) with fifteen gallons of water. To treat, immerse the potatoes for an hour and a half in the liquid. They may then be cut and planted at once or spread out to dry. Potatoes may be placed in a coarse sack and dipped. If the potatoes are dirty they should be washed before they are treated.

The Farmers Should Plant Forest Trees

By President J. H. Worst, N. D. A. C.

The planting of forest trees for shelter and for a future fuel and timber supply should not be neglected by the farmers of this great prairie commonwealth. Nothing adds more to the improvement of the landscape than trees that line the high ways or that cluster protectingly about the farm buildings or that are massed in the form of tree plantations.

Trees not only break the monotony of the landscape but in many ways modify the climatic conditions of a prairie country. In the form of dense windbreaks they prevent the ready distribution of weed seed that otherwise are scattered widely by the early spring winds. They also modify the severity of winter storms as well as mitigate the destructive influence of hot winds that occasionally occur in summer time. Where the windbreaks are dense and contain at least one row of hardy evergreens, they are almost equally effective in winter as in summer.

To enjoy to the fullest extent the influence of windbreaks, large areas should be protected. While a shelterbelt surrounding a farm would add materially to its protection as well as add greatly to its value, yet the township unit would prove much more protective. The county unit would be better still, while if the entire state were to establish dense shelterbelts one mile apart—the belts extending east and west—the ideal condition, whether considered for beauty or protection, would be realized. The climatic modification that would result from establishing a general system of windbreaks as here indicated would doubtless have the effect—to use a figure of speech—of domesticating the climate. It would, of course, require united action on the part of all land owners, but what equal effort could

all agree upon and what co-operative work could they perform that would accomplish more for themselves and for posterity?

The useful domestic animals as well as fruits and vegetables were all once in a wild state and possessed of but little quality. They had strength and endurance, born of natural, tho fierce competition, but the quality they now possess was imparted to them by the directing influence of animal and plant breeders. In many instances their very habits have been changed, and in all respects they have been rendered more efficient servants of humanity. And by the same token I believe the climate of a great prairie state may be sufficiently modified by means of cultivated trees to place it in the category of domesticated things, such as domesticated plants and animals.

A treeless state where the wild winds sweep unchecked is certainly comparable to the wild steed that never felt a restraining hand. However, the bridle and gentleness conquered the beast's turbulent nature and made it docile instead, just as trees will obstruct the air currents and restrain their violence to a degree that will eliminate their most unpleasant and destructive characteristics. Under any circumstances the farmstead should be protected by a sheltering body of forest trees.

The School of Forestry, at Bottineau, offers seedling trees practically free of charge to farmers, and as far as possible, students from the school will superintend their planting and cultivation, if desired. Well-to-do farmers should, therefore, set a good example this spring by planting trees either for shelterbelt, for protection of the farm buildings, or in a five or ten acre timber lot.

The writer does not urge this upon the farmer from motives of charity, but to demonstrate the ease with which trees can be grown, with the hope that tree planting may become contagious, and that future generations thereby may reap an economic advantage equal to the present joy we all may experience by seeing them grow.

The cost of planting and caring for trees is not great, provided the soil is plowed quite deep, (say 12 inches), in the spring and clean-cultivated one season in advance of planting the trees. Corn or potato ground, however, will answer nearly as well. The seedling trees should be in good condition at time of planting and the cultivation frequent the first three or four years. A mixture of elm, green ash, soft maple and box elder with occasional Carolina poplar and gray willow, planted two feet apart in the row, and the rows eight feet apart, will make a good timber lot or shelter for the farm buildings. When the trees attain some size, every other tree can be removed.

Let us hope that a goodly number of farmers will set the pace this spring by planting thousands of trees. A farmer can leave no fairer monument to his memory than a grove of trees. He may also enjoy the monument while he lives.

THE FARMER AND THE ROAD PROBLEM

In Eastern Pennsylvania certain portions of that historic highway known as "Old York Road" are still controlled by turn-pike companies, and the tollgate continues to be a respected institution. A company controlling about two miles of this old road, over which Washington and the continental army marched at various times, has had a profitable investment, paying from 7 to 8 per cent dividends. In by-gone days another section of turn-pike leading into Old York Road paid its owners as high as 12 per cent. Good stone and gravel pits made the maintenance of this road comparatively easy, and the much-talked-about patrol system was established many years ago. Always there were men at work cracking stone by hand and putting it into such depressions and washouts as occurred. But in spite of its solid bed and constant supervision, the road is going to pieces, as does the average road when subjected to automobile traffic. The rapidly revolving tires disperse the rock-dust or binding material in clouds, and the stones, upon exposure, are ripped out and hurled aside. The situation is akin to that

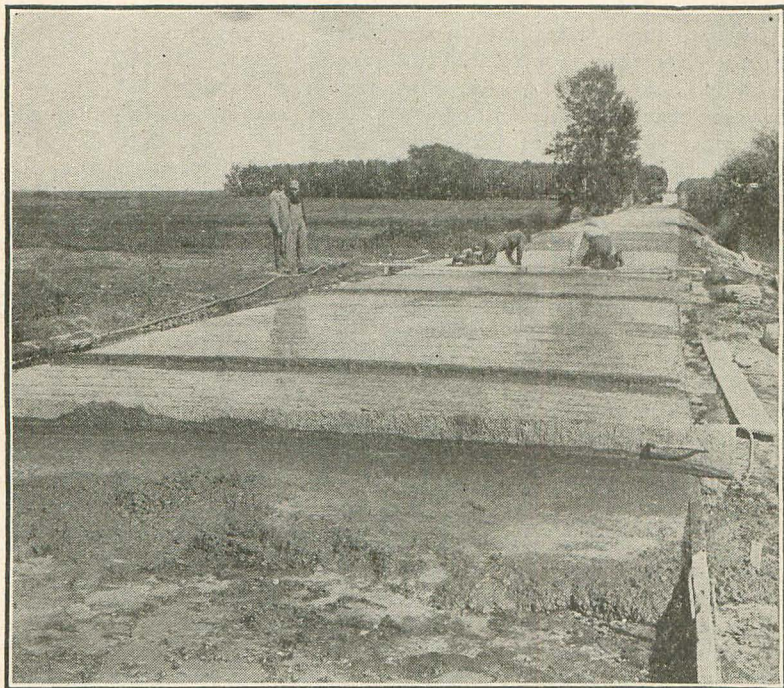
in every rural community, and the turn-pike company and farmers who dwell along this old turn-pike are up against a problem. They must decide whether they will submit to bad roads, pay excessive annual maintenance

vestment. The most conservative estimate of maintenance cost on macadam per mile per year would be certain to reach \$300 if the road is subject to motor-driven traffic and kept passable at all seasons. An equally

period of five years at the rate of 100 miles per year, and that repairs will not be required on either type of road for two years. Beginning, then, at the third year, and estimating maintenance costs for concrete at \$25 per mile per year, the Bellefontaine figures, the total maintenance costs on 500 miles of concrete road would, at the expiration of seven years, be only \$37,500. In the case of macadam, basing costs on New York and New Jersey figures for 1912, repair costs would reach the enormous total of \$1,350,000. Where concrete roads are very narrow, say 9 feet wide, and have a dirt road at the sides, they could be built for \$7,500 per mile. Maryland has built excellent concrete roads of standard width for a little less than \$12,000 per mile.

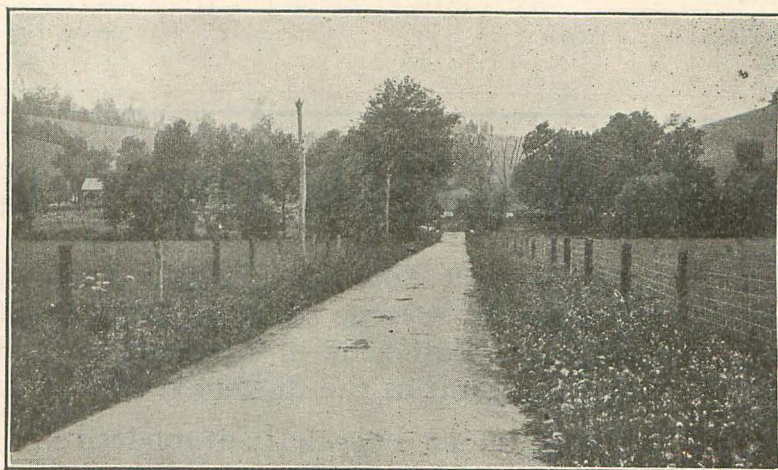
It is upon the above economic basis that farmers are beginning to look at the road question.

But aside from moderate first cost and practically negligible maintenance costs, the popularity of the concrete road is rapidly growing in rural communities due to the experience of those who have used it. For the farmer it is the ideal highway. Described briefly, the building of a concrete road consists of putting a wet and mushy mass of Portland cement, sand and stone in the center of a highway, where it hardens into imperishable rock. The accompanying illustrations give a very good idea of the building of a road and its appearance when finished. The first picture shows the construction of a concrete road near Mason City, Iowa. The concrete has been placed between rigidly staked side forms. The road



charges or pay for a road so solid that it will never get out of repair. In many localities farmers have dismissed the first two propositions as impossible and they are building durable roads. And some of them believe it is better to do this by local taxation rather than to have the state take over and control the roads, thus depriving them of the right to say what type of road shall be built. It was the farmers who defeated the recently proposed 50-million dollar bond issue in Pennsylvania. They wanted the opportunity to build roads that would not be utterly destroyed long before state or county bonds should mature. In Connecticut, Maryland, New Jersey, New York, Delaware and Pennsylvania, both state and local communities are turning to the concrete road as the solution of their problem and with excellent results. Taking a 16-foot concrete road as a basis, highways of this character have cost on the average about \$12,000 per mile, while maintenance costs have been practically nothing. For example, in Bellefontaine, Ohio, a concrete road put down twenty years ago has cost less than \$25 per mile per year for maintenance, while the average maintenance cost of macadam roads in five eastern states in 1912 exceeded \$800 per mile per year. The farmer, in adopting concrete, has figured the matter in this way: A road is an in-

conservative estimate for construction is \$6,000 per mile. The \$300 maintenance cost represents interest on \$6,000 at 5 per cent, thus making the real investment \$12,000 per mile, or the cost of a mile of indestructible concrete road. As a matter of fact, taking New York, New Jersey and Pennsylvania costs, the investment would be some \$25,000 per mile.



From considering a single mile of roadway it became interesting to figure costs on many miles to see what would happen in the case of macadam as compared with concrete. For example, let it be assumed that 500 miles are to be built during a

is then troweled with wooden floats. The view of the finished road in Maryland shows its admirable surface. This type of road appeals especially to the farmer and his family, because it provides them at all seasons with an excellent place to walk

as well as a thoroughfare for vehicles. It is a fact that in Wayne county, Michigan, children go to and from school on roller skates over the wonderful concrete roads of that locality. Horses never slip or fall upon these roads and will draw twice or three times their accustomed load. In Wayne county one farmer has driven an unshod horse over the concrete roads for a long period of time without injury to the animal. It is needless to say torrential rains cannot wash thru these roads. The water must go over or under them. Another especially good feature of the concrete road is its freedom from dust as well as mud. Wherever farmers have used these roads they are enthusiastic in their commendation, not only because of their great durability and low maintenance cost, but because in every sense they represent the ideal highway and, therefore, the solution of the road problem as it applies to rural communities.

BEAN MONEY

Rich Opportunities in this Profitable Crop for Farmers Everywhere

Mr. Farmer, did you ever sit down and have a good think about beans? Just simple, white beans?

There's a demand for these same beans away out of proportion to the quantity grown in the United States, and the prices run as high as \$2.50 or more per bushel.

Beans are easily grown. They adapt themselves to the soil and climate of practically every state in the Union. And one of the best things about bean growing is that the land on which they are grown seems to improve with age. After twenty-five

years of growing beans on a certain piece of land, it produced a better crop than at first. Ultimately, without doubt, phosphates and possibly some potash, lime and sulphur will have to be added, but until now the beans have supplied their own nitrogen.

Of course, some states are better than others for bean growing. Michigan, New York and Wisconsin grow more beans than any other portions of the country. But even in Connecticut, where the soil is gritty, hilly and thickly mixed with gravel and stones, the farmers plant corn, and between the hills, navy beans. The corn has a hard time of it, but the little beans struggle up gamely and thrive under conditions that would discourage any other plant.

So you can be pretty sure of a yield, no matter where you are located, and you can be absolutely sure of a demand at splendid prices. The demand for beans which began forty-four years ago at the time of the Civil War, when our soldiers found life and strength in the nutriment of this vegetable, is steadily increasing. It has been so great during recent years that importations have reached from 400,000 to nearly 1,400,000 bushels with a value of from \$600,000 to \$2,000,000. The American farmer, not the foreign grower, should be pocketing the profit these importations represent. The area of the United States devoted to bean raising is gradually widening. But there should be a swifter realization among our farmers that the bean is a cash crop. American farmers should wipe out this yearly importation of a million or more bushels.

As a welcome dish on our tables, the bean takes a foremost place. It is a tempting food of savory taste and aroma. And let it be said right here

that not a little care and skill is used in the preparation of the canned bean. The vast, almost unbelievable, quantities of beans annually used by American canneries and the exploitation of the worthy bean by these canner companies, are facts to be contemplated with satisfaction by the bean growing farmer. Canned beans are in vogue. They have come to be the great stand-by dish among Americans. Beans contain approximately 36 per cent of starch and about 25 per cent of nitrogenous matter. They are nutritious and delicious. The consumption of beans will never diminish. It will constantly increase.

Meet the national demand. Look your farm over. There's many a plot that can be devoted to beans to the money-making benefit of the farmer and the money-saving benefit of the nation. Of course, the richer the soil, the heavier the yield. Crops from 40 to 50 bushels of 60 pounds each on heavier bean lands in normal seasons are no exceptions, while 15 to 25 bushels may be expected on ordinary soils, at any rate. At \$2.50 or more per bushel, it is easy to figure how your profits will run up.

From one-half to one bushel is sown per acre. Seed should be sown very shallow, from one to two inches in depth, as it germinates very quickly. Plant when settled warm weather has come, say about the 15th of June or a little earlier. Cultivate, at first, deeply. Two or three cultivations are usually ample for one season. When the leaves turn yellow and the pods whiten, it is time to think of the harvest. The pods and vines when dry and bright are the best kind of roughage for sheep and cattle during the winter months, and have a value of from \$6 to \$10 per ton.

FARGO FOUNDRY CO., Fargo, N. D.

The Largest Foundry Machine Shop and Boiler Shop in the Northwest. A large stock of Structural Steel and Iron always on hand. Full Line of Blacksmith Tools for Farm use. The Biggest plant in the Biggest Little City in the world.

We make a specialty of modern Fire Escapes. Best Tools and Skilled Workmen is the secret of our success. While in our city call and see us and judge for Yourselves.

Oxy-Acetylene Welding in connection.

End of North Bridge, N. P. Ave.

As a matter of fact most American farmers are cashing in on the wonderful profits of bean growing. But why permit Southern Europe, Canada, Mexico or any foreign country to join in on **any** of the profits made possible thru the demand for beans by the citizens of the United States? These

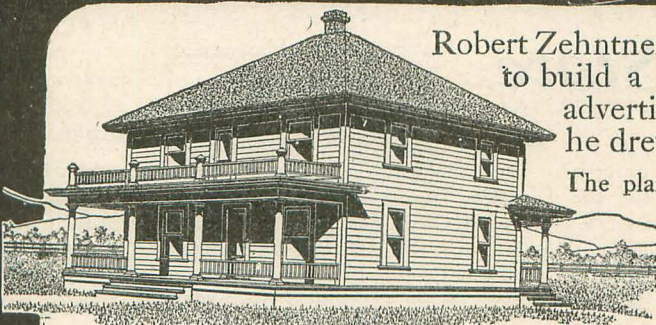
profits rightfully belong to American farmers. The year before us, 1914, presents an opportunity to cut down on the consumption of foreign grown beans. Let us see to it that 1914 far exceeds any previous year in our own home-grown yield. Bean growing should constitute a regular rotation

with other crops on most farms. Start with the year 1914.

NOT ACCORDING TO POLITICS

Whether the Tri-State, by its recent endorsement of J. H. Worst, presi-

We planned this House and Saved Robert Zehntner \$375.⁰⁰



Home Designed for Robert Zehntner, White Sulphur Springs, Mont.

Robert Zehntner of White Sulphur Springs, Mont., wanted to build a home and answered a Hewitt-Lea-Funk advertisement. On the back of our question blank he drew a rough sketch of what he had in mind.

The plans you see at the left, and afterward, the house pictured, was the result. When it came to ordering the lumber, the local yard man asked for the chance to bid and got it, but he didn't get the business. Mr. Zehntner's letter to us tells why. "I unloaded the car," he says, "and found the material fine. The carpenters are well pleased, the finish being much better than I could have gotten here. The best local

bid on the material was \$375 higher than yours and lacked quite a bit of being complete."

Complete plans \$2

If you like this house, you can get the complete plans, specifications, guaranteed estimate of prices on lumber, millwork, hardware, paint and heating plant delivered at your station—all for \$2.

Our guaranteed price means *no extras*. We guarantee absolutely to provide sufficient materials to build the house, and guarantee grades equal or better, than required by standard rulings. Getting the plans does not obligate buying materials of us, if you do, you get your \$2 back. If this plan doesn't suit,

Send coupon for Prize Plan Book — 100 homes—all sizes—all prices

It's the *most practical* book of its kind ever published. Every plan is a good one—a lot of them will please you—one of them will doubtless *just suit you*. Our architects worked over a year on this book. It cost us \$30,000 to get it out. Books not nearly so good are sold at 50c to \$2.00. Yet, ten cents, merely to cover postage, will bring you this valuable book, if you use the coupon.

middleman and sell you direct at the *mill price*—a price that's way-down low, because the raw materials come from forests under our control. Our lumber is straight-grained, free from sap and large knots, doesn't warp or shrink. Makes a beautiful job.

Special plans at small cost

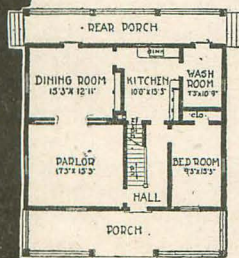
If none of the plans in this book quite suit you, and you have your own ideas of what you want, you'll find it easy to show us what your ideas are, just as Robert Zehntner did. We have a Plan Sheet for this purpose, that makes it simple. Give us a rough sketch of what you have in mind—and we will complete the plan for you.

Send for estimate—no obligation

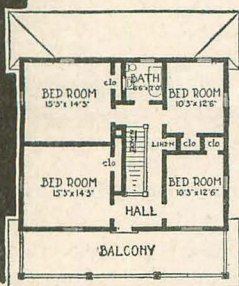
Send us your carpenter's bill of materials for our prices, if you can. Do it even if you aren't ready to build. No charge or obligation. If we can be of any help to you in planning your building be sure to let us know. Our special plan sheet makes it easy to give us your ideas—ask for it. At any rate, mail the coupon today for catalog and general price list.

Save as high as 60% on lumber—buy direct from the producer

Too many middlemen come between the mill and the lumber dealer—that's why his prices are so high. We cut out every single



FIRST-FLOOR PLAN—DESIGN—H-F-610—



SECOND-FLOOR PLAN—DESIGN—H-F-610—

Silos at up to 60% Saving

Here's the biggest silo value you can get. *Buy direct*, at the mill price, a Seattle Silo of one-piece staves from durable Puget Sound fir. **Seattle Silos** have patented swinging doors. Door bars form strong ladder from which hoops are easily tightened.

Send the coupon for folder on Seattle Silos. Get our special one-farmer-in-a-town-offer. Write today.

HEWITT-LEA-FUNK COMPANY
440 Union Avenue Seattle, Wash.

Hewitt-Lea-Funk Plan Book

Hewitt-Lea-Funk Company
440 Union Avenue, Seattle, Wash.

(Be sure to write plainly and if possible send bill of materials for estimate)

Please send me the following:

- ☐ Book of Plans (for which 10c in stamps or coin is enclosed).
- ☐ Catalog and General Price List of Lumber and Millwork, Free.
- ☐ Special Silo Folder, Free.
- ☐ Special Plan Sheet, Free.

Name _____

R. F. D. or Street No. _____

Post Office _____ State _____

Business _____

dent of the N. D. Agricultural College for the United States senate, did not enter a field dangerous to the future of that organization, is an open question. That this is the case many well versed in the history of what has happened to non-political bodies when they take up political questions will aver. Indeed no sooner had the Tri-State announced itself on record in this matter than the suffragists "put one over" and forced endorsement of their program, citing the Worst endorsement as a precedent.

But the thing that interests F., S. & H., is not the endorsement, nor the results that may come out of it,

but the fact that by this means the farmers of the Northwest have for the first time drafted a political leader. Above any question of President Worst's acknowledged fitness for any office to which the people of North Dakota may see fit to call him is the manner of his calling. In these days of self-constituted leaders it is refreshing to see a representative body of men look about them and select as their candidate the one whom they consider the best fitted for the position. Very possibly we have here the beginning of a policy of the office seeking the man in contradiction to the present vogue of office-hunting.—Farm, Stock & Home.

duced himself to public view. In the elaborately appointed reception hall Dr. Babcock was presented to the western farmers. His modesty, which has become proverbial, was in evidence, but none went away without a shake of the hand. One of the warmest greetings came from Governor McGovern. Professor Babcock was hailed as "the man who gives away millions of dollars" in recognition of his action in refusing to patent his great invention.

The guests also included Secretary of State John S. Donald, State Treasurer Henry Johnson, Immigration Commissioner B. G. Packer, former Commissioner A. D. Campbell, Milwaukee; M. Wes. Tubbs of the Equity Society, Dr. H. C. Bumpus and members of the agricultural college faculty and newspapermen.

From Over the State

OUR DAIRYMEN WERE GREETED

Farmers and business men of western North Dakota, numbering over half a hundred, absorbed the Wisconsin spirit and gained a conception of Badger agricultural processes Tuesday in a visit to the Wisconsin College of agriculture. In a special train the delegation came from Williston and other Williams County towns of North Dakota, and left for Waukesha and Milwaukee.

A luncheon at the college and a dinner by Madison citizens at night were

social events provided for the visitors. At the luncheon, the speakers were Dean H. L. Russell, Governor McGovern, E. M. McMahon, university regent and secretary of the Madison Board of Commerce, F. R. Crane, agricultural extension agent for the Great Northern railway; W. H. Webb of Superior and Rev. W. W. Keltner of Williston, N. D.

Presented to Babcock

The luncheon was one of the rare occasions when Professor Stephen M. Babcock, eminent scientist and inventor of the world-famed milk test, intro-

Governor Speaks

Governor McGovern told the visitors that Wisconsin agricultural perfection has made Wisconsin butter, cheese and potatoes worth more in the market than those of neighboring states. Mr. McMahon spoke for the citizens of Madison.

Professor Crane of the visiting party said that an example of the way Wisconsin is "doing things" was the fact that something was on the schedule for every hour of their stay. He said that Wisconsin had been "reclaimed" by using the dairy cow. In the matter of fertility of the soil, he declared North Dakota can 'put it all over Wisconsin' and that his state has possibilities Wisconsin never dreamed of. On March 7th, in Grand Forks, he said, will be held North Dakota products luncheon to which noted men from other states will come. Dean H. L. Russell will represent Wisconsin. This meeting will be held to advertise the state's agricultural opportunities and resources.

Northern Wisconsin Touted

W. H. Webb spoke on the possibilities of northern Wisconsin. He said his section can show southern Wisconsin farmers that they have "not begun to learn what we of the north know about dairying." W. W. Keitner of Williston, a minister and farmer, lauded the greatness of his home state.

NEW CREAMERIES

A great deal of interest is being shown over the state in new creamery enterprises. The agitation during the last few months and towns heretofore without creameries are seeking them at present.

SEED CORN

Are you interested in North Dakota grown seed corn? We have the finest lot ever offered for sale in North Dakota. It is of high germination test, thoroly acclimated and the earliest varieties known.

MARQUIS WHEAT

We have a quantity of this prize-winning, Canadian grown grain.

MACARONI(DURUM)WHEAT

A fine lot of this seed constantly on hand for immediate shipment in small quantities or in car lots.

MILLET SEED

We keep on hand a good supply of Early Fortune and Broom Corn Millet. Also southern grown hay millet.

Write for samples and price list

Lisbon Seed House
Sutton & Aherin, Props.

LISBON,

NORTH DAKOTA

At Lakota a meeting was held at which much preliminary work will be done. There will be another meeting in March, at which time a formal organization may be completed. At the first meeting a canvass of several townships around Lakota was reported and there seems to be no doubt but that a sufficient number of cows can be secured.

Farmers Discuss Proposition

Farmers tributary to Beach are discussing the proposition of establishing a creamery there. One meeting has already been held and despite the fact that it is in the extreme western edge of the state and once the center of the

ranch country times here have so changed that a sufficient number of cows are in sight to insure a creamery.

Wimbledon is seeking a creamery. The dairy movement has made rapid progress in Barnes county and the farmers are greatly interested in that line. There are many around Wimbledon who would prefer to sell to a local creamery than to make outside shipments. A meeting is to be held at an early date.

Plant in Good Condition

At Milton the creamery may be reopened. The plant is in good condition. Thru the lack of proper management it was closed down some

months ago and sold under a foreclosure. So confident are the members of the Commercial Club that it will be reopened that they have arranged to have the ice house stocked in readiness. The machinery is in good shape and negotiations are in progress with a practical creamery man.

The creamery which was closed down at Nisbet, Mercer County, will be removed to Hazen if the residents of the latter town show a little interest in the plan. It is thought it can be more successfully operated at a railroad point than in an inland town. It is understood the purchase of a small proportion of the stock would secure the removal to Hazen.

The Car to Keep

Reo the Fifth

Consider these things—you men who this spring buy a car to keep.

Here is a chassis designed by R. E. Olds after 25 years of car building. It is built slowly and carefully, regardless of cost, to mark the utmost in an honest car.

The steel is made to formula, and analyzed twice to prove the needed strength.

The materials are all made to specifications and tested in our laboratory.

We apply to every vital part the severest tests men know. Each engine gets five very radical tests, requiring 48 hours.

We insist on exactness. Parts are ground over and over. Inspection is carried to extremes. And for years we have kept these cars on the road, running night and day—as far as 10,000 miles—to discover any possible weakness.

This Is Costly

We use 15 roller bearings—190 drop forgings. This is because com-

mon ball bearings break, and steel castings too often develop flaws.

We limit our output, so these cars are never hurried.

Our driving parts are given 50 per cent over-capacity, to leave ample margin of safety.

All these things are costly. We could save at least \$200 by building a short-lived car.

But the result is safety, absence of trouble, little cost of upkeep. The result is a car which, year after year, runs as it runs when new.

These are the vital things to consider when you buy a car to keep.

Electric Starter New-Style Body

Reo the Fifth this year comes equipped with electric starter and electric lights—the latest and best devices of this kind. It comes with dimming searchlights and electric horn. In every way the equip-

ment is modern and complete.

And it comes with a new-style body—the coming streamline body. Cars which have the old angle dash will soon seem out-of-date.

Never before has such a handsome model appeared in this class of car.

Now \$220 Less

And the price is \$220 less than last year's model with electric equipment. This is because we have for three years centered on this chassis. The costly machinery, tools and jigs have been charged against previous output. From this time on they are taken out of our costs.

In worth, in beauty, in equipment and price, this year's Reo the Fifth comes close to finality in this class of car.

A thousand dealers sell it. Ask for our catalog and let us direct you where to see this car.

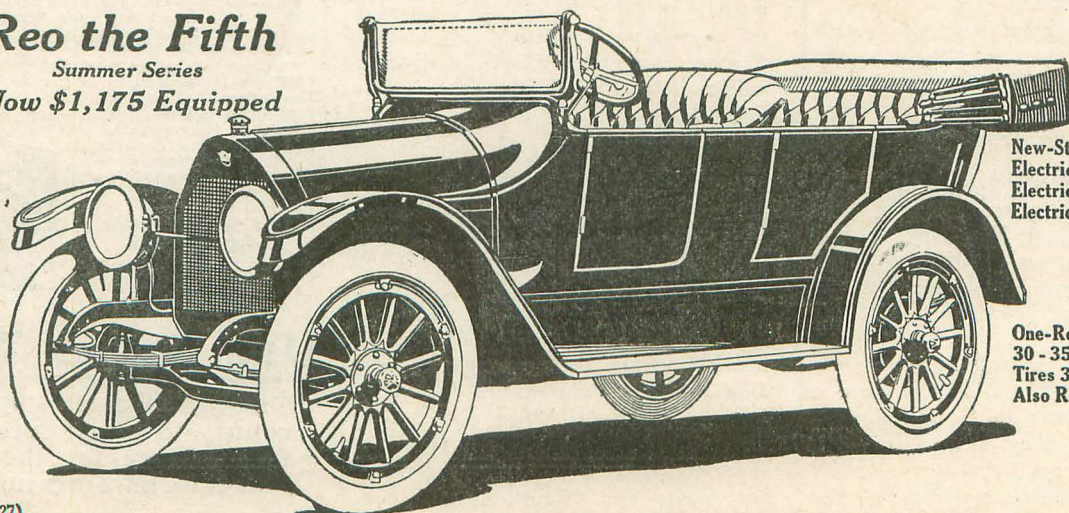
REO MOTOR CAR CO., Lansing, Mich.

Canadian Factory, St. Catharines, Ont. Canadian Price, \$1,575.

Reo the Fifth

Summer Series

Now \$1,175 Equipped



New-Style Body
Electric Lights
Electric Starter
Electric Horn

One-Rod Control
30 - 35 h. p.
Tires 34x4
Also Roadster

POULTRY CONTESTS GRAND FORKS

The Better Farming Association and the county superintendent of schools this year will conduct a poultry contest for the girls of Grand Forks County schools. The contest is planned to stimulate interest in the raising of pure-bred poultry.

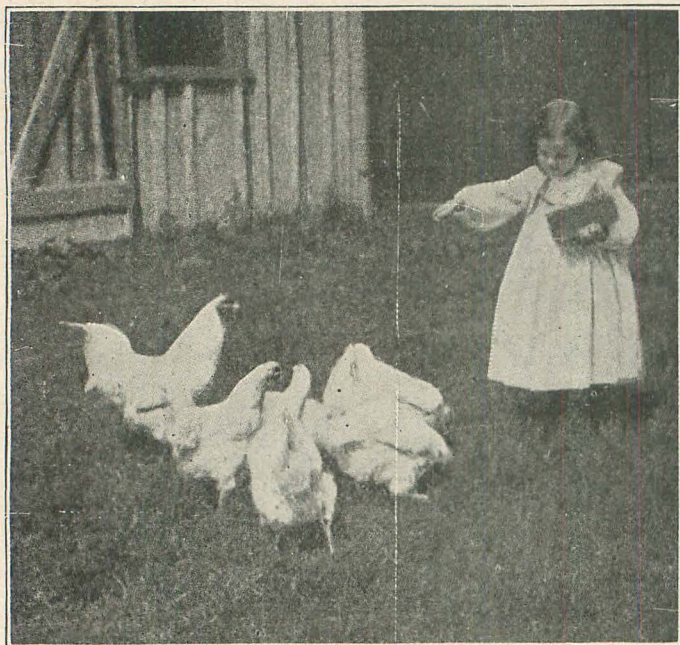
The contest is for girls between 14 and 18 years of age. According to the plan, the Better Farming Association

clubs have not been organized, and plans are under way for placing clubs in them also. Weekly and bi-weekly meetings are held during the winter months.

DAIRY MEETING HAS A FINE PROGRAM

Fargo entertained the dairymen of the state in a three-days' convention. The meeting was noteworthy for

the" by F. W. Merrill of Fargo. There were in addition addresses by E. W. Fowler of Minneapolis, City Milk Inspector James of Fargo and Justice Bruce of the state supreme court.



"The Contest is Planned to Stimulate Interest in Pure-bred Poultry."

will furnish fifty sets of eggs. If more than fifty girls enroll, they will furnish additional sets.

Each contestant must agree to return at the end of the season to the association either \$1 or a rooster. The contestant can retain the pullets. This will give her a nucleus for next year's flock.

A similar contest has been started in McHenry County. The eggs will be distributed just as soon as the entry list is complete.

FARMERS' CLUBS

Williams County is laying claim to being the banner county of North Dakota, so far as the organization of farmers' clubs is concerned, there being twenty-five.

All were organized thru the instrumentality of the field agents of the North Dakota Better Farming Association, and they have a membership ranging from 15 to 40.

There now are only four of five townships in the county in which

the largest attendance since the association was organized and because for the first time there was a display of high types of dairy cattle. Many thoroughbreds were shown that were in the national show.

The display of milking machines, cream separators, creamery machinery, models of dairy barns and silos gave the show a more practical side than in former years and the large attendance indicated the increased interest in dairying.

Secretary Hardy of the commercial club welcomed the delegates and C. E. Batcheller of Fingal made the response. The president's address was then delivered by S. F. Crabbe of Fargo.

The afternoon program provided for an address on "Extending Credits for Dairy Stock, by W. F. Stege of Medina, with a discussion led by Major Persons of Minot; "Beginning Dairying at Hettinger," by W. R. Lanxon, superintendent of the substation at that point, and "Cautions to be observed in the Purchase of Dairy Cat-

FIR LUMBER

Quality Guaranteed. Direct from our Mills to you. Large saving. Pay when car is unloaded and checked. Ask for Lumber and Millwork Catalog.

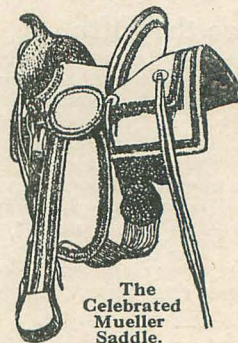
KEYSTONE LUMBER CO.,
DEPT. F TACOMA, WASH.

WANTED A MAN

in your town to sell our prairie grown trees and fruits. Salaries paid weekly. People want our trees because they can stand the drying winds, short seasons and cold winters. Write at once for particulars.



A\$45 Saddle, \$32 Cash



Our latest Swell Fork Saddle, 14-inch swell front, 28-in. wool-lined skirt, 3-in. stirrup leather, 3/4 rig, made of best oak leather, guaranteed for ten years; beef hide covered solid steel fork.

THE FRED MUELLER

Saddle & Harness Co., Dept. R, 1413-15-17-19 Larimer St. Denver, Colo. Send in your name for our catalogue now ready.

GO TO WESTERN CANADA NOW

The opportunity of securing **free homesteads of 160 acres** each, and the low priced lands of **Manitoba, Saskatchewan and Alberta**, will soon have passed.

Canada offers a hearty welcome to the Settler, to the man with a family looking for a home; to the farmers son, to the renter, to all who wish to live under better conditions.

Canada's grain yield in 1913 is the talk of the world. Luxuriant Grasses give cheap fodder for large herds; cost of raising and fattening for market is a trifle.

The sum realized for Beef, Butter, Milk and Cheese **will pay fifty per cent on the investment.**

Write for literature and particulars as to reduced railway rates to Superintendent of Immigration.

Ottawa, Canada, or to Canadian Government Agent.

W. E. Black, Clifford Block, Grand Forks, N. D.



Use Spare Time

One representative in each county to solicit subscription. Write for the best offer we have ever made.

N. Dak. Farmer, Lisbon, N. D.

OVERHAULING HINTS ON AUTO-MOBILE

How to Save Trouble

A large number of amateur motorists are very innocent of the internal economy of the automobiles or other mechanically-propelled vehicles which they more or less successfully drive or attempt to overhaul. To the enthusiastic amateur who does not profess to be a skilled engineer (and yet likes to do his own repairing), and to the workman who does, it is hoped that the hints given below will be—as they should if intelligently and carefully followed out—of some considerable service.

During the winter and spring of the year a large number of cars are laid up or are not used to the same extent as will be the case later on, and the opportunity can thus be taken by the owner to have a thoro overhaul of the various parts which may require attention, so that the best running and enjoyment free from all but minor troubles may be obtained during the best of the spring, summer, and autumn months. The wise man sees to it that all little details are gone into thoroly, and he then derives the maximum of pleasure with the minimum of trouble.

The Putting-on Tool

A manufacturer describes a very smart jig in use at his works, which has earned the nickname of "the putting-on tool," and is chiefly used in the repair shop. For instance, a car that has been in use a long time comes in for repair. Among other signs of wear and tear, it is noticed that, say, a small pinion or cam rocks on its shaft, that is, a loose fit. This at first sight appears a big job, but is easily done with the "putting-on tool," or in other words, by shrinking the hole smaller. The modus operandi is as follows: Take a rod of steel or iron that is a loose fit in the hole, and, using this as a mandrel, heat the cam on it. When the cam is sufficiently hot, spray cold water on the outer surface of the cam, with the result that the hole will be reduced between 0.1 and 0.2 mm. This process may be repeated indefinitely, and may be applied to all sorts of parts, such as a nut that is loose on its thread, which is a very bad feature, even if a split pin is used. Any loose nut may be made tight by merely applying the "putting-on tool," and if satisfaction is not obtained from the first application, take another dose of the same physic, and there will be a further shrinkage of .01 mm.

Removing the Engine from the Frame

To do this, first disconnect all wires, ignition rods, inlet, exhaust, and water connections, also the pump when it is removable and attached to the engine case, or any other bracket which prevents the ready removal of the engine. Always mark all the parts with a center-punch, letter, or number stamps to facilitate reassembling; note the length of any adjustable rods, so that there will be no alteration in these when again put in place. Mark with a sharp tool the exact position of the engine brackets on their bedding, in case the securing bolts are slack.

Having got the engine out, after removing the securing bolts, carefully clean all grease and dirt from all the outer parts of it which are accessible. Get a box to put in all the parts which are to be taken down, so that they may all be kept together and to save hunting for them later on. Securely fix up the engine on a bench or strong box, so that it can be operated on readily. Take out the sparking plugs to prevent breakage, and plug up the holes in which they screw either with corks or with a wad of clean cotton waste. Remove the valve covers or caps, then take out the valves by releasing the valve spring, taking out the valve cotter, and, either by jerking up the valve with one hand and catching it with the other or by a pair of pliers, take hold of a small piece usually turned on the valve head for grinding-in purposes, and pull out the valve.

Grinding in a Valve

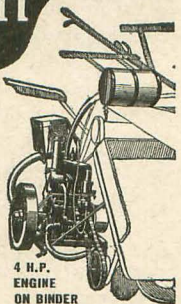
Examine the valve, and if found pitted or only bearing on part of the seating so that there has been a blow past, then the valve must be ground in. To do this, use a mixture of fine

emery powder and lubricating oil, apply a little with the finger to the valve face, then put the valve in its place, and by means of a screwdriver or a special screwed grinding-in tool partially rotate the valve backward and forward on its seating, meanwhile applying moderate pressure to it. Occasionally lift the valve and move it round to another position, and repeat the grinding until, on wiping

Run your Binder with a Cushman Engine

and Save a Team

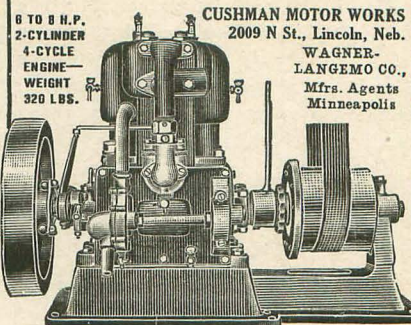
Use this same engine for pumping and light work, also your grinding and heavy work. It will do both at lowest fuel cost. Throttle governed. Weight under 200 lbs. Move it to where the work is. 10-year guarantee. That's the



Farm Cushman All-Purpose Engine

Use our 6-8 H.P., 2-cylinder, 4-cycle engine for hay baling, grinding, sawing and heavier farm jobs. Double cylinders mean double power. Runs any speed because throttle governed. Change speed while running.

Cushman Engines are designed to secure greatest power and strength with lightest weight. It's in the design. Write for catalog.



6 TO 8 H.P.
2-CYLINDER
4-CYCLE
ENGINE—
WEIGHT
320 LBS.

CUSHMAN MOTOR WORKS
2009 N St., Lincoln, Neb.
WAGNER-
LANGEMO CO.,
Mfrs. Agents
Minneapolis

MARQUIS WHEAT

For satisfactory yield and quality, you must sow the TRUE, ORIGINAL REGISTERED STRAIN, yielding from 40 to 50 bushels per acre. Write for copy of reports from 100 farmers in Dakotas and Minnesota supplied by us last season.

Also—

Scotch Fife Wheat, Registered	New Great French Lizo Oats
Swedish Select Oats, Registered	New Victory Oats
Am. Banner Oats, Registered	Six-Rowed Barley, Registered

Quick shipment. State quantity required, when we will name prices.

Steele, Briggs Seed Co., Limited

WINNIPEG, CANADA

CANADA'S GREATEST SEED HOUSE

away the emery and oil with a clean cloth or waste, a bright surface is seen all round the valve and the seating on which it beds when in position. If not worked down properly, repeat the operation until it is, applying more emery and oil; if the seating tends to dry up during grinding, just touch it with a little oil only if there is plenty of the emery powder on. Be careful not to press down too hard in grinding-in, or to get any grit or filings mixed up in the grinding mixture, as, if so, rings or ridges will be formed which probably can only be removed by turning up in a lathe.

After grinding-in and thoroly cleaning the seats, make sure, when the valve is placed back in position, that it comes right down on to its seating, and yet leaves a small space (usually about 1-32 inch) between the valve spindle and its tappet rod when the cam is in such a position that the valve should not be lifted. If the grinding of the valve has dropped it, fix by filing a small amount from the top of the tappet rod. Do not file the valve stem, otherwise standard valves would be too long in the stem if a replacement were required at any time. If the valve is very badly pitted, or the head does not appear true with the stem, or if the neck under the head has burned to a much smaller section, which happens after a time with the exhaust valve, then the valve should be replaced by a new one, which should be ground in place to make a compression-tight seating. Replacing a valve in time will prevent trouble from breakage later on. There is always the danger, if the head should break off, that it may get in the cylinder and cause damage to the piston or other part. Remember, "a stitch in time saves nine."

Valve Spring Testing

The inlet or exhaust valve springs may either have lost some of their elasticity and power, owing to the heat to which they have been subjected, or in the case of automatic inlet valve springs, the constant rapid vibration may have permanently shortened them, thus preventing the rapid working of the valve on its seating. These should be renewed before going farther. It is always best to keep a new inlet and exhaust valve spring as a standard with which to compare the used springs, so that any deterioration can be detected at once.

With automatic inlet valve springs it is necessary to keep them always at the same strength to give the best results, and so every spring fitted should be tested against the standard. This can be done by having a spare valve and seating fitted up with the standard

spring complete, then press the stem of its valve against the stem of that to be tested, when it is likewise similarly fitted up. If correct, both valves should open exactly at the same moment, as the pressure tending to lift them from their seat will be equal. If the refitted spring is too strong, then shorten by nipping off a little with the pliers; if too weak, pull out carefully a little to strengthen it.

Marking of Camshaft Gears and Setting of Valves

Valve setting appears to be a difficult subject with a large number of automobilists, but it is really the easiest of operations if the Otto cycle is understood. If the following instructions are carried out the veriest tyro will successfully manage this interesting job. In the first place the flywheel should be rotated until the piston is brought to the top of its stroke. In two or more cylinder engines the forward piston is meant. This can be ascertained either by inserting a long piece of stiff wire thru the compression tap hole, the sparking plug hole—when it is in the top of the cylinder—or by noting the position of the crank thru the inspection lid of the crank chamber.

Now notice whether both inlet and exhaust valves are down on their seatings. If so, oscillate the flywheel backward and forward thru a small arc, and if in one direction the inlet valve is lifted from its seating, and in the other the exhaust valve is lifted, you are then ready for the next proceeding.

The cams will occupy the position showing the exhaust valve shut and the inlet valve just opening, the induction stroke of the piston being just about to commence. If the valves do not lift as stated, then the flywheel must be turned thru one revolution.

The inlet valve will open immediately the exhaust valve closes, and close about the end of the suction stroke. The exhaust valve will open a little before the end of the working stroke. This time of opening varies from one-fourth inch to one and one-fourth inch from the end, according to the make of engine, length of stroke, and speed at which it is desired to run.

Now, if the camshaft wheels are not cased in—as in some types they are not—you can proceed to mark the wheels, using either a sharp scriber, or center-punch the corresponding tooth and metal below the space in which the tooth gears. If the wheels are cased in, then lay the whole engine flat on the flywheel, using two blocks of wood below the wheel if necessary, as it may be if there is any projecting clutchshaft. Take out the screws, or remove the securing nuts which hold the gear cover plate in position, and carefully lift off the plate, so that the wheels are left in position and in mesh without disturbance. Again make sure that the piston is at the top of its stroke, and mark the wheels. In some cases it may be necessary to remove the contact maker bodily before the cover plate can be taken off. If the center piece is keyed in position, it must be gently



WELL DRILLING MACHINERY

MAKE BIG MONEY drilling wells. Steady demand. Our machines make deep or shallow wells of all kinds in all kinds of soil. Fast workers and easily operated. Most improved in every way. Write for our free catalog.

R. R. HOWELL & COMPANY, Manufacturers, MINNEAPOLIS, MINN.



Pioneer Nursery, New Ulm, Minn.

GROWERS OF HARDY STOCK FOR THE NORTHWEST

Grapes produce more fruit than any fruit producing plant, occupying the same space.

Our Trio of hardy grapes are "Wonders." Bear annual crops without protection. Should be planted as far south as where Concord and others need protection. Late bloomers. Early ripe. Are being tested at Winnipeg, Man., and Indian Head, Canada. Ask for descriptive circulars and our catalog.

PIONEER NURSERY, NEW ULM, MINN. W. Pfaender, Jr. Prop. AGENTS WANTED.



NORTH
DAKOTA
GROWN

SEED CORN

KILN DRIED,
SELECTED
AND TESTED

The best Seed corn we have ever offered. It pays to plant the best and that is what you get when you buy from us. Order today—the supply is limited. We have a good stock of very high grade Canadian Marquis Wheat.

Alfalfa, Clover, Timothy and grass seeds are cheaper this year, and our stock is of the very highest test and will prove their worth when harvest time comes. Your order should not be delayed if you want good seed. Send today for our 1914 catalog, free

Fargo Seed House

Dealers in strictly
high-grade seeds.

FARGO

NORTH DAKOTA

forced off with a steel wedge or bent lever.

Before removing the camshaft, the valve tappets should so be secured that they cannot drop down and so foul the cams and prevent withdrawal of the shaft. A thin bit of twine tightly tied round the tappet stem when it is lifted up as far as it will come suffices.

NORTH DAKOTA 1914 PORK-PRODUCTION CONTEST

The North Dakota Experiment Station, thru its Director, Thomas Cooper, will carry on a pork-production contest this year. Twenty-four cash prizes are being offered: 1st, \$100; 2nd, \$50; 3rd, \$30; 4th, \$25; 5th, \$15; the next five \$10 each and the eleventh to twenty-fourth, \$5 each. These prizes are put up by the Union Stock Yards Company of St. Paul.

The contest is open to boys and girls, ten to eighteen years of age. The plan is that each one secure a sow and raise her litter of pigs; the sow to farrow not later than June 15th, and the contest to close November 20th; the awards to be made on the basis of the largest pork-production from the litter of one sow, at the smallest cost and with the greatest gains per day. It will be necessary to enter by April 1st.

The litter on which the contest of 1913 was won weighed 2903 pounds at 203 days old. Valuing pork at 6 cents this made a total of \$174.17. The feed cost \$83.12, leaving a profit of \$91.05. The average weight of the pigs in the 24 litters that stood highest was 212 pounds at an average age of 213 days. The feed cost is to include the feed consumed by sow and pigs from farrowing to weaning time, and from then on of the young pigs only.

Circulars of information will be sent the contestants from time to time. These will give information on the feeding and management of the sow and pigs, instructions as to the providing of pasture for growing and fattening the hogs, and other factors that make for economical pork production.

To Remove Ink Spots from Cloth

It is said that ink spots may be removed from wash fabrics in the following manner: Dip the spots in melted tallow and when the tallow is worked out, the ink will have disappeared.

For an Aching Tooth

Salt placed in a hollow tooth will stop the aching.

12 EVERBEARING STRAWBERRY PLANTS FREE

Yes, ABSOLUTELY FREE! This is simply to introduce our wonderful Productive Strawberry Plants

Produce great crops of fine, extra large, delicious strawberries all summer and fall. Fall bearing strawberries are in great demand. Here's your chance to get 12 nice, thrifty plants, also our Three Color Catalog, FREE. Your name and address on a postal will bring them. Plants sent prepaid in proper planting season.

BRADLEY BROTHERS
140 Main St. Makanda, Illinois



Burpee's Seeds

are supplied every year direct to more American planters than are the seeds of any other growers. Do your seeds come direct from Philadelphia? If not, we should like to make your acquaintance. Simply send us your address (a postal card will do) and you will receive **Burpee's Annual for 1914**,—a bright book of 182 pages, which has long been recognized as "The Leading American Seed Catalog." Kindly write to-day! Address

W. ATLEE BURPEE & CO., Burpee Buildings, Philadelphia

What is Your Land Worth?

Agricultural experts say, nothing increases the value of land more than its ability to produce **big corn crops**.—Can you produce **75—95 bus. per acre**? If not—why not? The fundamental principal is in securing **Seed** of a fixt type established thru years of scientific breeding that matures fully and yields big.

We have made **Seed Corn** a study for 25 years. On our own farms we have bred and improved varieties that will yield 125 bus. per acre. We can supply the seed **exactly** fitted for your locality and help you to get into the prize winning class. We guarantee to satisfy or refund your money. Ask for free samples and our new Seed and Nursery Annual.

FARMER SEED & NURSERY CO.,
583 3rd Ave. Faribault, Minn.

Trees GUARANTEED Trees North Dakota Grown

We have 250 acres of Forest, Fruit and Ornamental Trees, Shrubs and Flowers

They are acclimated to extreme Cold, Drouth, Hot Winds and Unfavorable conditions.

They are hardy and grown especially to stand unprotected on the Northwest Prairies.

We ship direct to Customers, saving them the Agent's Commission.

SEND FOR OUR FREE PLANTING GUIDE AND CATALOG.

Devils Lake Nursery Co.

Devils Lake, - - - - - North Dakota.

DAKOTA WELDING & MFG. COMPANY Large Welding Plant and Machine Shop

Expert welders and machinists of ALUMINUM gear and crank cases; manifolds and housings; CAST-IRON and cracked sectional boilers; cracked or broken cylinders or water jackets; STEEL frames or any broken parts of automobiles or other machinery. We weld cracked steam boilers with our large portable plant at your home.

201 FIFTH ST. NORTH

Phone 926

FARGO, NORTH DAKOTA

North Dakota Farmer

Entered as second class matter in the postoffice at
Lisbon, North Dakota

PUBLISHED EVERY MONTH

W. G. CROCKER, PUBLISHER
Lisbon, N. D.

E. F. Ladd, Editor FARGO, N. D.

BUSINESS MANAGEMENT, LISBON, N. D.

ASSOCIATE EDITORS

PROF. J. H. SHEPPERD, State Farm Notes.

PROF. W. B. RICHARDS, Livestock.

**PROF. C. B. WALDRON, Fruits, Forestry,
Insect pests.**

GEO. HAUSMANN, Poultry.

Remittances should be made by Draft, Post-
office Order or Express Order.

Address all business correspondence to the
Lisbon office.

Vol. 15 MARCH, 1914 No. 9

The overall brigade is worth more to society than the swallow-tailed swells.

PLANT TREES

Every farm should have a small orchard and berry patch duly protected by a thick windbreak. While at it the windbreak should also protect the farm buildings.

PLANT TREES

The farm is God's provision for supplying food for all His children. The owner of a farm, therefore, should realize the fact that he is clothed with tremendous responsibility and as a steward should honor his stewardship.

PLANT TREES

About this time of year the farm machinery, harness, etc., should have been thoroughly overhauled and put into serviceable condition preparatory to putting out the spring crop. Nothing like being ready for the busy season some little time before it actually arrives.

PLANT TREES

The well-to-do farmer should install an electric power plant, using either a windmill or gasoline engine, and thus relieve the housewife of much drudgery and also make the farmstead a modern up-to-date place where the boys and the hired man can do more work in less time—and enjoy the work.

PLANT TREES

The man in shirt sleeves and branded with calloused hands is a mighty important factor in the structure of human progress. He may not cut much of a figure in the drawing room or in the political caucus, but without him our civilization would crumble instantly. Then let us give him the honor he deserves.

Poverty has made more good men than liberal inheritances have made. At the same time poverty has caused many crimes to be committed. On the whole when young men are compelled to make good—and poverty frequently does this very thing—the effort required develops the best there is in them.

PLANT TREES

The educated man is the man who is master of himself and master of his job. He may not know much Latin or algebra or ancient history and be the better for his ignorance of them. Any system of education, however, that creates human desires without providing the means for honestly earning the money necessary to enjoy their fruition, works injury to those thus imposed upon.

PLANT TREES

A liberal inheritance received by young people arriving at the age of maturity, is more often a curse than a blessing. And yet we congratulate young people for inheriting the seeds of their own destruction—at least congratulation is the rule. Why? Because the world has become so money mad that money, mere money is set above all other considerations, and its attainment, by fair means or foul, is given the very first consideration.

PLANT TREES

The farmers that stick to the old, established and thoroly acclimated types of wheat, such as the best strains of fife, blue stem, and macaroni, will be more successful than if they import all sorts of "boosted" varieties at fancy prices. Usually wheat and other grains come to perfection only under conditions they originate in or have long flourished under. A lauded wheat may do far better in its own province than in North Dakota.

PLANT TREES

"Young man, get a piece of land, the sooner the better. Land is comparatively cheap now and a farm, even a small farm, is the best insurance against penury in old age that the average man can hope for. Don't be ashamed to be a farmer. The farmer is the most useful member of society and soon will be reckoned at his actual worth. The farm that will support a family and produce a surplus of 25 cents per day will, in fifty years, if properly managed, accumulate enough cash reserve to support you and your companion thru your declining years without ever impairing the principal. Yes, the interest on your capital at six per cent when you are 70 years old, will afford you a better annual salary than the average

graduate of a college or university can command the first years after graduation. Get a farm and stick to it, young man." (President Worst)

PLANT TREES

Many counties have put forth considerable effort during the winter for the promotion of immigration. Let the good work go on. Thousands and thousands of farmers now living on rented farms in the south and east can find good homes here without large capital to begin with. A few thousand dollars will enable a farmer to procure a quarter-section of land, which, if intensively cultivated will support a fair-sized family and enable its owner to lay by enough before life's active period is over, to support an aging couple in comfort during their declining years. What sense is there to covet more than a good living, which can be obtained without drudgery, and a happy decline supported by the savings made when work was a pleasure?

PLANT TREES

Doesn't it strike you, gentle reader, as exceedingly strange that the only resource the state has for creating wealth should be constantly hampered? The farmers must, in the very nature of things, support themselves and everybody else. From the soil must come the means for supporting all the state institutions, charitable, educational, and penal. From the soil must come the money that makes the banking business the most lucrative business in the state excepting only, perhaps, the elevator and lumber interests. Moreover, the doctors, preachers, lawyers, educators, merchants, and gentlemen of leisure, all depend upon the farmer for what they see in life that seems to make it worth living. Politicians find in the farmers their easiest game, and the railroads depend chiefly upon what farmers produce and consume for their maintenance and profits.

One would naturally suppose under the circumstances that the Legislative Assembly would provide the most liberal measures for popularizing and enriching this grand old industry, not for the mere purpose of making money but to make farming a desirable business. But not so. In the first place the state's revenues are not overabundant. There is not enough money coming into the state treasury to satisfy those who distribute it to enable them to give much of it back to the source from which it comes—even that vastly more may come in consequence. The distributors are always willing to take chances on the future. The immediate present must be cared for, whether there is a fair prospect for the future or not.

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade.
ASK YOUR GROCER FOR THEM.

“BUY”

“EAT”

HOME BRAND

Pure Food Products

“ECONOMY” “SATISFACTION”

Griggs, Cooper & Co.

MANUFACTURING
WHOLESALE
GROCERS,

ST. PAUL, MINN.

Main Offices:
CORNER THIRD AND BROADWAY



One package, 10 cents, makes one pint of wholesome Fruit Jelly. All flavors from true fruits.

The Purest of Pure Food Products

are packed under the Brands of

Nokomis
PURE FOODS

Blue Bird
PURE FOODS

Flawatha
PURE FOODS

Wampum
PURE FOODS

Stone-Ordean-Wells Company
DULUTH, MINN.

BRANCH HOUSES-Minot, Bismarck, N. D. Billings, Bozeman,
Butte, Great Falls, Mont.

MONARCH BRAND



FOOD PRODUCTS

A GUARANTY OF PURITY. A WELCOME GUEST at every table where the HOUSEWIFE demands the BEST. THE MONARCH LABEL insures QUALITY in Coffee, Catsup, Pickles, Maple Syrup, Canned Goods or any article bearing the MONARCH BRAND of REID MURDOCH & CO CHICAGO.

ANOTHER PURE FOOD PRODUCT

CEREKOTA

Self-Rising

Pancake Flour

Is a Scientific Preparation of Healthful Appetizing Ingredients
and the Best Flour Milled in North Dakota

GUARANTEED Pure and Wholesome

Ask Your Grocer for a Trial Package

Bemmels Milling Company

Sole Manufacturers

Lisbon,

North Dakota

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

It is the jerking and straining that injures horses more than the steady pulling.

Breeding from animals that have mean dispositions for a few generations establishes the trait with them.

Prompt, positive action on the part of the driver has much to do with the action of the team and lazy men are often responsible for lazy horses.

Thoro stirring and mixing of the cream secures more perfect uniformity in ripening and makes all of the butter come at once so that none is lost in the buttermilk under ordinary circumstances.



"The Second Prize Winner in the 1913 Pork-Production Contest was a Girl."

Any harsh treatment that excites the cow, lessens the quantity, and injures the quality of her yield.

Before starting the teams to work in the spring, see that the collars fit the horses shoulders properly.

A hen that is made to scratch for everything she eats is in very little danger of eating too much.

Enough feed of suitable composition must be the basis of good dairying even with cows of superior dairy type.

As soon as pigs begin to eat well they become partially self-supporting and demand less and less of the mother.

With the beginners in poultry keeping, it is always best to commence on a small scale and then increase as success and experience warrants.

Unless the pure-bred dairy cow can prove that she has the ability to invest large amounts of grain and roughness in an economical way into large quantities of milk, she has no business on that dairy farm.

Sheep and lambs are often deceptive to the eye. A short-legged, short-bodied sheep is often heavier and will produce more wool than one that looks to be twice as large. As a rule great coarse looking sheep are not desirable.

A heifer calf that is to be raised for the dairy should be handled and made accustomed to all necessary manipulations from the time she is a calf until maturity, in which case she will be little or no trouble and make a better cow.

In breeding aim entirely at one type

or class of sheep, if the best results are to be reached, and do not change from one class or breed every year or two. By continually changing no one can build up a fine flock as that requires years of careful breeding.

Large nostrils indicate good breathing power, good lungs and good constitutions. The nostrils, like any other part of the body, are developed by exercise and without good lungs and a large amount of durability, no horse would be liable to develop the nostrils above the ordinary size.

In proportion to the food consumed there is more growth the first year than the second and more the second than the third; and with each succeeding year the increase in weight gets smaller in proportion to the amount of food consumed. It is very essential that the young animal be kept thrifty during the first and second years' growth.

With all farm crops, one important item in securing the best results is to have the soil in a good condition and to sow or plant the seed in good season. To do this with some crops, at least, it is essential to be ready to take advantage of the first favorable opportunity. For this purpose the seed must be procured in good season so as to be on hand when needed. The implements should be overhauled and put in good condition for work, the teams mated up and started to work with other details of getting ready, so that when a favorable opening comes the work can be pushed along without delay.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and
all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."

Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

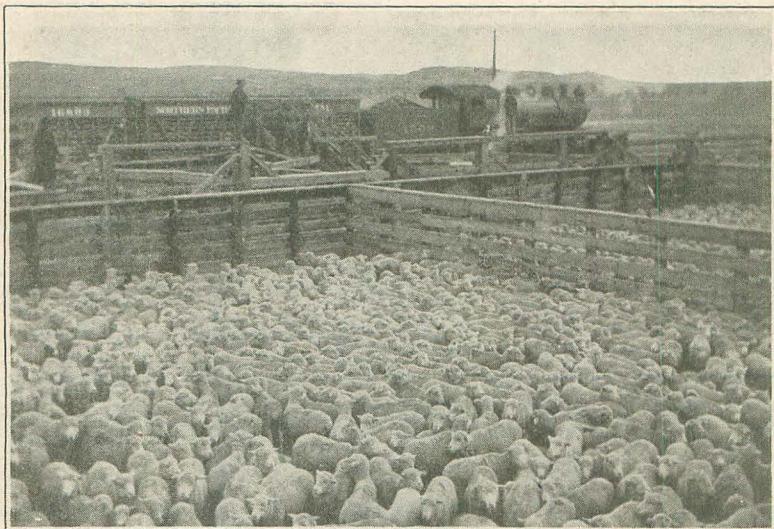
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

SHEEP RAISING CAN BE MADE PROFITABLE SEVENTH YEAR-EIGHTH MONTH

The consumption of mutton per capita in the United States is increasing every year, tho the amount used is much less in proportion to other

quired regarding the possibilities of the sheep business.

While mutton can be produced at low cost and there is a growing demand for it, difficulty in selling may be experienced in sections where the amount of livestock produced has not been sufficient to make it worth while



"Slaughtering Plants that Can Handle Carloads Are Within Reach of All Sections."

meat than in Europe. There are good reasons for expecting a continuation of good prices for mutton and lamb, and the demand for wool also

for regular buyers to operate. Slaughtering plants that can handle carloads are within reach of all sections, and if a sufficient number of neighbors



"Make the Children Your Partners. It Pays."

may be expected to increase more rapidly than the production. These facts are brought out in a recent letter from a specialist of the department to a southern farmer who in-

combine to have 100 lambs of similar breeding, size, and condition to ship jointly the returns are assured. It will also be possible to secure visits and bids from buyers when such a

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

POLAND CHINA PIGS, also Shropshire sheep. Seed grain. GEO. N. SMITH, Amenla, N. D.

FAMOUS O. S. C. SWINE. Am now booking orders for fine pigs of April farrow. Price: \$18 each; \$35 a pair. All Stock recorded free. Shipping point: Mankato. ROBT. A. HAEDT, Eagle Lake, Minn.

ASH GROVE FARM. Knudtson & Son, Props. Breeders of Pure Bred Percheron Horses and Short Horn Cattle, Both Sexes. Stock for Sale. Route 1 Fullerton, N. D.

J. S. BIXBY
RED POLL CATTLE. If you want dual-purpose cattle, I have the best. Rhode Island Reds, also in stock LISBON NORTH DAKOTA

Mulefoot Hogs are Healthy, Hardy and Prolific. Jno. Dunlap, Breeder, Williamsport, Ohio.

For Large Yorkshires of either sex and bred gilts, address L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.

FOR SALE. Work Horses, Drivers, Stallions and Double-standard Polled Durham Bulls. LEAL STOCK FARM Leal, N. D.

PERCHERONS FOR SALE

We are offering a choice lot of young mares and stallions, all raised here on the farm and thoroly acclimated.

WHITE BROTHERS
Valley City - - North Dakota



Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed
Send for FREE Illustrated Book
Holstein-Friesian Asso., Box 135 Brattleboro, Vt.

ENVILLA STOCK FARM

Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat Dogs and other breeds, Angora Cats. All varieties of chickens; turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

MISCELLANEOUS

WANTED. Live Foxes, Skunks. Mink and Badgers, any time.
Envilla Stock Farm, - - Cogswell, N. D.

WANTED AGENTS either sex, for Economy Administration Cook Book, the much talked of and biggest seller of the year. \$10.00 to \$15.00 per day right now. Free descriptive circular, or send 25c. for Outfit at once, and first choice of territory. Best Terms. Address, A. B. KUHLMAN, Publisher, 136 W. Lake St., Chicago, Ill.

ALFALFA SEED DIRECT. For Farmers' Price and Sample, Write J. L. Maxson, Buffalo Gap, S. D.

CENTRAL MINNESOTA
100 Improved Farms; low prices; easy terms; "A good title always." Write for list.
C. D. BAKER, Fergus Falls, Minnesota, Bx. N

WANTED! To hear from owner who has good farm for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

FOR RENT. Improved farm, good buildings, fine water, five miles from town and creamery. Will give right kind of man the place on his own terms. Write to us.
McCarty & Langlois, Belfield, Stark Co., N. Dak.

Wanted: Men who desire to earn over \$125 per month write us today for position as salesman. Every opportunity for advancement. Central Petroleum Co., Cleveland, Ohio.

GIVE GERMAN DISTEMPER REMEDY a Trial. Your money back if not satisfied.
German Distemper Remedy Co., Gothen, Ind.

Box 17, R. 1 - - - - - OWNER
- - - - - Devils Lake, N. D.

WILLOBANK FARM, LARIMORE, N. D.

Terms Reasonable LISBON, N. D. Write for dates

Shipments						
C. R. I. & P.	1091	1	-----	-----	4	39
C. G. W.....	1749	32	-----	1031	20	61
C. M. & St. P.	3936	77	18029	4653	75	337
M. & St. L....	276	-----	226	-----	-----	12
C.,St.P.,M.&O.	3761	184	2822	9411	10	172
C. B. & Q.....	1250	8	7616	14028	42	174
M.St.P.&S.S.M.	460	77	-----	5201	67	53
Gt. Nor.....	1188	11	-----	596	54	46
Nor. Pac.....	806	63	245	-----	28	31
St. P. B. & T.	27	2	-----	-----	-----	1
Driven Out....	346	220	226	5	51	-----
Total.....	14890	675	29164	34925	351	926
Inc. over1913	-----	-----	7753	12664	-----	93
Decrease.....	2170	545	-----	-----	41	-----
Jan. 1 to date	30781	1331	78799	69933	640	2807
Inc. over1913	-----	-----	29615	28921	-----	440
Decrease.....	169	1117	-----	-----	100	-----

the kind and variety of food upon which sheep thrive best. Plowing the land prevents danger from stomach worm eggs dropped upon it. In warm weather the flock should be moved to fresh ground every 10 days or two weeks to prevent infection of lambs by larvae from eggs dropped from the ewes. If lambs are by themselves, the time between changes might be longer, but in most forage crop rotations changes will need to be made every two or three weeks. Fall-sown rye, spring oats, and vetches or peas, rape, cowpeas, soy beans, crimson or Japan clover, planted at proper intervals, will furnish fresh pasturage at times desired. Some of the land can be used twice in a year, as by having one planting of rape upon the rye ground. The cultivation of the land destroys all infection from previous pasturing. Under such a system of cropping and grazing the land will improve, as the manurial value of the crops is practically all left upon the land and is very evenly distributed. Like the boll weevil, the stomach worm was considered to be wholly an evil thing until it was found that the methods of prevention and circumvention were also the best methods for economical production.

The dog question is a serious one in many sections, and better state legislation is needed to protect flocks from the ravages of worthless curs. Woven-wire fences will turn dogs. While it is expensive to fence large pastures in this way, smaller fields devoted to forage crops will carry the flock in a more healthy condition and require much less outlay for fencing. The whole forage crop area can be fenced and lower portable fences used for confining the sheep to the particular crop ready for grazing.

LARGE SHRINKAGE NOT ALWAYS AN INDICATION OF POOR TREATMENT

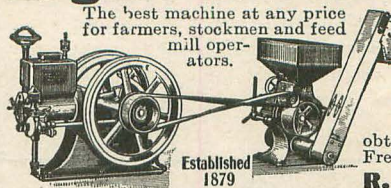
From the U. S. Bureau of Animal Industry

The shrinkage of animals depends to a large extent upon their treatment prior to loading at the point of origin. If they have had plenty of feed and water before being loaded they will

show a rather large shrinkage, whereas a shipment which has had rough treatment and no feed or water before loading may be so empty when loaded that the fill taken at market may overcome the shrinkage in the transit. Of course, in a case of this kind the shrinkage of the animals occurred on the trail, and they were in abnormal condition when first weighed.

An illustration of the above was found in two shipments of cattle originating at Dickinson, N. D., on October 13, 1911. One shipment of 28 head of mixed cattle was driven very slowly for 15 miles to the loading pens. They were drifted along, grazing as they went, and arrived at the loading pens with a medium fill and looking perfectly fresh, as if they had

Engine & Feed Grinding Outfit



The best machine at any price for farmers, stockmen and feed mill operators.

Established 1879

THE HOWELL ROLLER FEED MILLS have been wonderfully successful everywhere. They wear a life time, grind twice as fast with the same power as the best burr or stone mill made. Good money in custom grinding. Grinds Graham and Rye Flour as well as feed. Engine is of latest and most up-to-date design. Runs at proper speed to obtain best grinding results. Simple and Durable. Free Catalog D3 tells everything.

R. R. HOWELL & CO., Minneapolis, Minn.

ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

Comparison of the Origin and Disposition of Livestock for February, 1914

Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
Minnesota.....	18946	6015	78225	10649	85	1941
Wisconsin.....	2394	801	9344	899	2	232
Iowa.....	26	4	.....	.....	35	3
Far South.....	4	.....	.....	.....	86	6
So. Dakota ..	816	39	8715	347	56	155
No. Dakota ..	3289	138	19864	3357	83	401
Montana.....	18	.....	375	33346	.....	143
Far West.....	.....	.....	.....	.....	.....	.....
Manitoba&NWT	867	2	.....	.....	.....	46
Far East.....	.....	.....	.....	.....	.....	.....
Returned.....	140	.....	.....	.....	.....	4
Totals.....	26500	6999	116523	48598	347	2931
Disposition of Livestock						
So. St. Paul P'k'rs	11090	5266	87258	16063	.....	.....
Cy & St. Butch	534	75	2484	.....	.....	39
Outside Packers	102	.....	23673	369	.....	229
Minnesota.....	3258	300	1476	1781	137	128
Wisconsin.....	1016	63	.....	662	99	52
Iowa.....	2715	67	.....	.....	18	85
Nebraska.....	524	.....	.....	.....	.....	18
Kans. & Mo..	58	.....	.....	.....	.....	2
So. Dakota ..	1956	95	.....	.....	.....	52
No. Dakota ..	468	1	.....	.....	30	15
Mont. & West	903	66	.....	.....	.....	28
Far South.....	.....	.....	.....	.....	.....	.....
Manitoba&NWT.....	.....	.....	.....	.....	21	1
Mich. & E. Can	15	1	.....	.....	4	2
Chicago.....	1821	.....	1531	32113	42	224
Ills.(ex Chicago)	1320	7	.....	.....	.....	45
Eastern Points	60	.....	.....	.....	.....	2
Returned.....	140	.....	.....	.....	.....	4
Totals.....	14890	675	29164	34925	351	926

BOTH
3 Years
ONLY
\$1.00

Threshermen's Review & Power Farming

(Formerly Threshermen's Review)

NORTH DAKOTA FARMER

(Your State Farm Paper)

If you are interested in Power on the Farm and in your State of North Dakota, send \$1.00 for a 3 Year Subscription to both these papers to
NORTH DAKOTA FARMER - - LISBON, NORTH DAKOTA

BOTH
3 Years
ONLY
\$1.00

not been driven more than a mile. The other shipment of 32 head of similar cattle was rounded up and driven 20 miles without water and held over night and next morning without food or water. They were very empty when loaded and certainly looked bad, showing the kind of treatment they had received. After the fill at market they were two pounds heavier than when weighed at the loading pens. Both shipments were sent to South St. Paul and received similar treatment after being loaded.

There has been less complaint about shrinkage in the Northwest than in the Southwest for several reasons: The facilities for shipping are usually better, the cattle trains make faster time, and the facilities for feeding and watering the cattle at points in transit are better. The Northern Pacific road is to be especially commended for the facilities for unloading and feeding stock at their new yards at Staples, Minn. Forty cars can be "spotted" for unloading at one time, and the cattle can be very quickly unloaded and penned with food and water before them. The manager of the yards is advised by wire of the number of cars to be fed there, and food and water are in the pens when the cattle arrive, so there is no delay in allowing the cattle to fill. The yards are equipped with both open and covered pens, the latter to be used in case of bad weather. The pens are away from the town, where the animals can be absolutely quiet and not disturbed until reloading time. It is to be noted that cattle unloaded at this point invariably took a good fill and had a quiet rest, which enabled them to stand the remainder of the journey to St. Paul or Chicago well.

Farmers or stock growers interested in this subject can probably secure copy of this bulletin, which contains other valuable information, from the U. S. Department of Agriculture, Washington, D. C.

BREEDS OF HOGS

To a question as to what are the principal breeds of hogs, Prof. E. J. Thompson replied:

Swine are divided on the market as fat or lard hogs and bacon hogs. There is also a third group, the

general purpose hogs, so termed by some farmers. But the first two main classes are of greatest importance to the farmer and the following breeds compose the majority of individuals found on the large markets of the United States—Berkshire, Chester White, Duroc Jersey and Poland China. The principal breeds of bacon hogs are Yorkshires and Tamworths.

PERCHERON WINNERS

When the mountain would not go to Mahomet, Mahomet went to the mountain.

Thousands of Percheron breeders,

intensely interested in procduing the best possible Percherons, are unable to attend the greatest of all Percheron exhibitions, the International. For these men we have prepared the International Review—a booklet, beautifully illustrated with photographs of the Percheron winners, with specific facts relative to the animals which will, we believe, enable the farmer to compare the Percherons he is producing, with those which have won.

Copies will be mailed to all members of the Percheron Society. We will have some additional copies for distribution to farmers who are interested in the production of good horses.

Wayne Dismore, Bloomington, Illinois



Poultry Department



CORN AS A POULTRY FOOD

Michael K. Boyer

Some years ago the poultry press was greatly agitated over a controversy regarding corn as a poultry food. The writer, among several others, condemned the use of corn as a main diet, but the "quill-drivers" were prone to accuse the writer (and the several others) of condemning the use of corn in any "shape, way or form."

That corn is a valuable adjunct to the bill of fare there can be no question. That as an exclusive food it is dangerous, we have the facts ready to prove.

Professor James E. Rice, in his Cornell Reading Course for Farmers, says: "Corn is an excellent grain. It is, perhaps, the grain most relished by fowls. Therein lies the danger. Fowls eat it so greedily that, it being a fattening food, they are likely to become overfat, if it is fed too freely."

In itself, corn is not an egg food; but, balanced with other grains—wheat and oats—it is very valuable. Corn will make fat. We firmly believe that the best laying hens are those that are in good condition. Now "good condition" means just enough fat so that there will be strength enough to properly perform the work of egg-production.

While hens are greedy for corn, especially when it is fed to them only occasionally, it is a grain that they quickly tire of when regularly placed before them. On the farm of the writer the grain mixture is composed of corn, wheat and oats, equal parts by measurement.

Fowls on free range, where insects and green food are plentiful, will thrive on corn, alone as the grain food. But when confined to runs, there is great danger in feeding it exclusively.

During the Summer it should be given only in limited quantities, owing to its heating nature. As a Winter evening feed it is recommended, as it digests slowly, and the crop of the bird is seldom empty before morning.

PETERSON'S Barred Rocks

SWEEPS FARGO CLEAN

Of all First and Special prizes. Once again my Barred Rocks prove their superiority at the North Dakota State Show at Fargo, Jan. 1914, by winning as follows:

1st, 2nd, 3rd Cock; 1st, 3rd, 4th Hen.

1st, 2nd, 3rd, 4th Cockerel.

1st, 2nd, 3rd, 4th Pullet; 1st Pen.

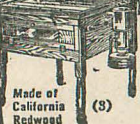
Cash special for best display and Silver medal for Best Barred Rock in the Show.

Circular free; it tells all about my fine matings. Write today

ENOCH J. PETERSON

Alexandria, - Minnesota

Formerly: Peterson Bros., Harwood, N. Dak.



Made of California Redwood (3)

130 EGG Wisconsin Wins In Big Hatching Contests

Every Year

Wisconsin Incubators won in 1910, 1911, 1912 and 1913 in National Hatching Contests—thousands of machines competing. Catalog tells all about it, and why Wisconsin are winners. If ordered together both machines \$10—freight paid east of Rockies. Wisconsin have hot water heat, double walls, dead air space between, double glass doors, copper tanks and boilers, self regulating, Nursery under tray. Incubator and Brooder shipped complete with thermometers, lamps, egg-testers, all set up, ready to use when you get them. Incubators finished in their natural color showing the high grade Calif. Redwood lumber we use—not painted to cover up cheap material. If you will send for our catalog we will send you a sample of the material, then you can compare it with the kind others use. If you will do this we know you will order a Wisconsin. Money back if not satisfied.

Wisconsin Incubator Co., Box 50

Or 180 Egg Incubator Both \$11.50

130 CHICK

\$10

Racine, Wis. FOR BOTH

This means a great protection during cold nights.

A fowl that will not fatten when heavily fed on corn is not in good physical condition. There is some weakness. For fattening for market there is no better grain. The American and the Asiatic classes quickly fatten on Indian corn, while the Mediterranean varieties can stand considerable starchy matter before it produces such results.

Heavy feeding of corn is apt to produce indigestion, and it is a noteworthy fact that the cry of "cholera" is invariably the greatest in parts of the country where corn is the most liberally given. The writer has answered hundreds of letters asking for "cholera" remedies, but investigation proved that the "cholera" cases were as a rule purely cases of indigestion (or some kindred ailments) induced by heavy corn feeding. To nearly every inquiry the writer made as to the quality of the feed given, came the answer "corn."

To summarize: Corn is a heating and a fattening food—excellent for Winter feeding, but dangerous for Summer diet. It must not be fed exclusively unless the fowls have free range in an orchard or field where plenty of bugs and other insects and grass can be had. In other words, corn is not a complete food, and therefore must be properly balanced.

POULTRY POINTERS.

The old style round roosts were a great mistake. The proper style is a roost—that is flat. Take 2x3 inch scantling, and round the edges so that they are not sharp. Then set the roosts in sockets, or on a 2x3 inch cross piece, with the two-inch side for

WHITE WYANDOTTES. Every farmer should raise white chickens, because white chickens improve the looks of a farmyard more than any other color. Do you get that—then why not get a white chicken that combines more good points than any other. Eggs for sale. E. M. White, Valley City, N. D., R. R. No. 1.

HATCHING EGGS

Rose Comb Reds, Single Comb White Leghorns and White Wyandottes. \$1.00 per 13, or \$1.50 per 15 prepaid. Day-old chicks. Orders booked. Also have Indian Runner ducks and Mammoth Bronze turkeys.

Jos. O. Berg
Hendrum, - - Minn.



the fowls to roost on. Being movable they are easily taken down and cleaned. Flat roosts give the fowls a better chance to spread their feet than round poles do. Have all roosts on a level, about two feet from the ground. Underneath, the roosts erect a platform to catch the droppings.

Unless the noon meal can be given among a lot of straw, leaves or other light scratching material, it had better be omitted. This meal, of course, should consist of whole grain, and just enough given so as to keep the fowls at work. Idle hens soon become unprofitable. For every quart of grain fed at night, make it a pint at noon. Poultry should be fed in the morning shortly after they come from the roost. It is not always convenient to do so, especially where poultry is kept as a side issue. In such cases the fowls should have access to some scratching material, among which the night previous has been scattered a little wheat or other grain. Then about nine o'clock give the fowls the regular morning mash.

Anaemia is a condition which ultimately affects the nutritive process, becoming injurious to the functional activity of the digestive and other organs; the power of the gastric and intestinal glands are deteriorated, the action of the stomach and gizzard are weakened. All this means indigestion, and not treating it in the early stages is apt to lead on to enlargement of the liver. This deficiency in blood is caused partly by over-crowding, defective ventilation and poor light in the henery, innutritious and insufficient food. The symptoms of the disease are generally prostration, depression, bloodless look, especially about the eyes, comb and wattles. The comb is pallid, cold, and inclined to lop over; the mouth and tongue are white, limbs cold, and thighs apt to be somewhat swollen. In treatment, of course, the cause must be first removed. Then give a nutritious diet, fresh air, sunlight and good range. Give a liver pill each night for three nights in succession. Keep the birds comfortable, and add a teaspoonful of tincture of iron to a quart of drinking water.

Barred Plymouth Rocks

COCKERELS FOR SALE

GEO. F. CLARK

Fargo, R. 2. - - - N. D.

BRED TO LAY

And prize-winning strain. Barred Plymouth Rocks, White Orpington Indian Runner Ducks; Silver Spangled Hamburgs; Single Comb White and Brown Leghorns. Stock and Eggs at Reduced prices.

F. C. MITCHELL CROOKSTON, MINN.

Rose Comb Red Cockerels

Rose Comb Red Cockerels for \$1.50; and Fawn and White Indian Runners, \$2.50 per pair, if taken now.

Mrs. Ira Heidlebaugh, Pleasant Lake, N. D.

White and Columbian Wyandottes,

Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. Michael K. Boyer, Box 27, Hamonton, New Jersey.

S. C. Buff Orpingtons, S. C. Black Orpingtons, M. Pekin Ducks and Indian Runner Ducks. Maude I. Matthews - - - Larimore, N. D.

White Rock and Columbia Wyandottes and Buff Orpingtons. Stock and Hatching Eggs in Season. O. A. Barton, Valley City, N. D.

HATCHING EGGS of the Leading Strains and of the Prize Winning kind. Mammoth Bronze Turkeys, 12 Eggs \$1.50 Barred Plymouth Rock 15 Eggs, \$1.50; 50, \$3.00; 100, \$5.00. **SEED CORN FOR SALE.** Write all orders to C. H. SCHUTT R. R. 1 Fairmount, N. D.

ELEVEN YEARS A BREEDER

Pure-bred poultry: White Wyandottes, Toulouse Geese, Bourbon Red Turkeys and Pearl Guineas. Stock for sale. Write me your wants. E. A. TOW, R. R. 3 LISBON, N. D.

EGGS FROM BUFF ORPINGTONS AND S. C. RHODE ISLAND REDS at special low prices Bred to lay. F. M. PEZALLA, Cayuga, N. D.

BRED TO LAY AND WIN

If you want Quality write

Enoch J. Peterson, Alexandria, Minn
Formerly Peterson Bros., Harwood, N. D.

HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns Hillsboro, - North Dakota

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write M. C. JAMES, Valley City, N. D.

Silver Campines and Buff Wyandottes. Great layers of large white eggs. Eggs and young stock for sale in season. E. K. Myhre, Valley City, N. D.

EXTRA LARGE PURE-BRED M. B. TURKEYS

Hens, \$4.00; Gobblers, \$5.00; Rouen Ducks, \$1.50 each. S. C. Brown Leghorn Cockerels \$1.50 each; 4 for \$5.00. Also Poland-China Hogs (The Big Easy Keeping Kind). I will use you right. Write Mrs. Emma Timmerman, St. Peter, Minn.

Pure Bred Single Comb, White Leghorn Cockerels, \$1.25 each. Pullets, \$1.00. Oscar Anderson, R. 2., Edmore, North Dakota

FOR SALE: R. C. Red Eggs; also Indian Runner Eggs, at \$1.00 per 15. Mrs. Ira Heidlebaugh, Pleasant Lake, N. D.

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free. L. GULDEN, Osakis, Minn.

1900-C. C. DIBLEY & SON-1913

QUALITY—UTILITY—EXHIBITION

Single Comb Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Light Brahmas, Buff Wyandottes.

BIRDS OF HIGHEST QUALITY: Winners in the following shows 1913: Minneapolis and St. Paul, Minn., Fargo & Valley City, N. D. Mating list free. WOLVERTON, ROUTE 1, MINN.

One great mistake beginners generally make in buying fowls, is to at once put them with their own birds. New stock should be placed in quarantine for about two weeks, so that it can be fully determined if they are in good health. This precaution will often save serious trouble.

Each year the writer, regardless the care of the premises, has had more or less trouble in keeping lice at bay. Every known precaution was taken. But never have we had so little trouble in this particular as the past

few years when we adopted a new method. The nests are made of tobacco stems, the same as the pigeon men use; the interior of the house is whitewashed once or twice a year; the droppings are gathered daily, when possible; and several times during the Summer months kerosene is sprayed in the cracks and crevices of every pen. This method not only keeps down the army of lice, but keeps the fowls in the best of health.

To fatten broilers is by no means an easy task, as the tendency at their

age is towards growth rather than flesh, and an attempt at forcing is apt to result in disease of some kind. A chicken should be two months old before any effort at fattening is made. Two weeks must be allowed for the process. The selected birds must be separated from the rest of the flock and shut up where they cannot see the other birds. They must be fed and watered systematically—fed three times a day, and a little millet seed scattered on the ground between meals. The chief feed should be corn, as it is rich in fat producing elements.



BLUE RIBBON POULTRY FARM

OVER 500 PRIZES IN ONE YEAR

Breeder of 70 varieties of high class Land and Water Fowls

This is our price list of Eggs to the North Dakota Farmer readers. You can order direct from this advertisement, thereby saving time and trouble and do it with perfect confidence.



PRIZES

Our poultry has won its share of prizes at all the leading shows and fairs, such as Fargo, Grand Forks, Valley City, Mandan, Crookston, Duluth, and Minneapolis.

NO STOCK

At present we are all sold out on stock, but will have the same in the fall. If in need of stock we advise you to place your order early, as we have our stock marked so low that this will go quick, for then we do not need to feed them thru the winter.

Below is a list of varieties in which we now have surplus eggs at prices stated.

Eggs per 15	Price	Eggs	Price
Black Cochin.....	\$2.00	Silver Duckwing Bantams, per 15	2.00
White Cochin.....	2.00	Toulouse Geese, Eggs per 8....	2.50
Partridge Cochin.....	2.00	White Embden Geese Eggs per 8	2.50
Buff Cochin.....	2.00	White China Geese, per 8.....	2.50
Barred Plymouth Rocks.....	1.50	Brown China Geese, per 8.....	2.50
Houdans.....	2.00	White Muscovy Ducks, per 11..	1.25
S. C. R. I. Reds.....	1.50	Colored Muscovy Ducks, per 11.	1.25
Mottled Anconas.....	1.50	Aylesbury White Ducks, per 11.	1.50
Blue Andalusian.....	1.50	Pekin Ducks, per 11.....	1.25
White Face Black Spanish.....	1.50	Rouen Ducks, per 11.....	1.25
Silver Spangled Hamburgs.....	1.50	Buff Orpington Ducks, per 11...	2.00
S. C. W. Leghorns.....	1.50	Indian Runner Ducks, per 11...	1.25
Golden Seabright Bantams.....	2.00	Gray Call Ducks, per 11.....	1.00
Silver Seabright Bantams.....	2.00	White Call Ducks, per 11.....	1.25
Buff Cochin Bantams.....	2.00	White Crested Ducks, per 11...	1.50
White Cochin Bantams.....	2.00	Black Cayuga Ducks, per 11....	2.00
Black Cochin Bantams.....	2.00	Blue Wedish Ducks, per 11.....	2.00
Partridge Cochin Bantams.....	2.00	Black East India Ducks, per 11.	1.50
White Japanese Bantams.....	2.00	Bronze Turkey's Eggs, per 9....	2.50
Black Japanese Bantams.....	2.00	White Holland Turkey's Eggs, 9..	2.50
Black Tail Japanese Bantams.....	2.00	Pearl Guinea's Eggs, per 15....	1.50
Golden Duckwing Bantams.....	2.00	White Guinea's Eggs, per 15....	1.50

KEEP THIS LIST FOR REFERENCE

NEW CATALOG

Send 5 cents for our new 1914 catalog, which gives full details regarding our 70 varieties, prices on stock and eggs of all varieties, many testimonials from customers, etc. Satisfaction guaranteed.

ABOUT EGGS

Also place your orders for eggs early, as last spring in May and April we were so overwhelmed with orders, we had to decline them. Our advice is Order Early.

INCUBATORS

We have one of the best Incubators on the market. It has been tried by ourselves and has been found to be Successful.

Blue Ribbon Poultry Farm, C. H. Aherns, Prop.
BOX 427, FARGO, NORTH DAKOTA

School and Home

ELEMENTARY AGRICULTURE

Miss Ura Leader,
Ruraldale, N. D.

Dear Miss Leader:

Just a few words at this time amplifying the April outline. Let me suggest that you get hold of some reliable publication, especially with illustrations, as it will help your pupils a good deal in fixing correct types in mind.

The outline indicates that there are certain breeds of sheep that are classified fine woolled. These, as the name indicates, furnish a very fine quality of wool, from which worsted goods are made. These sheep are either Spanish or descendants of the Spanish sheep in America and France. The medium wool breeds nearly all come from England. They have wool of ordinary length and texture which is used largely in the manufacture of ordinary woolen goods. The long wool breeds are also English and have an exceptionally long and heavy coat, used in the manufacture of the coarser woolen articles. The last two classes may be grouped together as the mutton type, while the first class is known as the wool type.

It is interesting to note that of this long list of sheep breeds a large majority are developed in England.

In swine there are two principal types—bacon and lard; the former being English breeds and the latter partly English and partly American. The bacon hog is rather large of bone, standing on quite long legs, with a comparatively narrow back and deep long sides. The purpose of the breeders of this type is to get an animal capable of producing a large amount of bacon, this being the high-priced kind of meat. In the case of the lard hog the purpose of the breeder is to get one that is fat and with an especially broad back. It is finer of bone, set closer to the ground, rather shorter of body and, as its name indicates, rich in lard production.

Poultry

I fancy that a good deal of interest will center about poultry. I shall, therefore, have more to say about this than of the other two topics.

The classification given in the outline is one generally followed, although some argue that it is not a correct

classification because the Langshans, Cochins and Bramahs are merely large birds and not necessarily producers of highest quality of meat. While on the other hand the so-called egg breeds, the Mediterranean, do not always prove the best layers. However, the classification is pretty satisfactory and I will advise you to teach it as it is given.

Natural Incubation. The matter of incubation and brooding is always of interest to boys and girls. There are two methods of incubation, natural and artificial. The former is the method of hatching the eggs under the hen, the latter of hatching artificially by means of a machine known as an incubator. In case chicks are hatched by the natural method it is always well to give the hen a fair chance in performing this very important function. She should be given a clean, dry comfortable place, entirely free from vermin or the annoyance of other hens. A small coop makes a splendid place for a broody hen to set. It should be well-cleaned before the hen is put to work and thoroly disinfected. A good solution for killing lice and mites is as follows: fivecents' worth of corrosive sublimate, ten cents' worth of carbolic acid, and a quantity of kerosene. The solution should be prepared as follows: Dissolve the corrosive sublimate in about one quart of hot soft water, add the carbolic acid. Now put one or two tablespoonfuls of this solution in a half pail of kerosene and spray the inside of the coop with this, using it freely. This will kill lice, mites and keep the hen free from what is known as scaly leg. When the setting coop has been prepared in this way a quantity of clean fresh straw should be put in, in which a few glass eggs are placed. If the hen takes to the new quarters kindly for a day or two then give her a setting of good eggs. She should be allowed to get out for food, water and exercise once each day. If she does not come of her own free will, she should be taken from the nest by an attendant. If the eggs have been properly selected from a breeding pen of good vigorous breeds there is no reason why "the chicks may not be counted before they are hatched." A hen setting on a nest of twelve or thirteen eggs

should be expected to hatch at least ten healthy chicks.

Artificial Incubation. Where artificial incubation is practiced the machine should be one that will hold an even temperature at 103 degrees, this being the natural temperature of the hen's body. The machine should be allowed to run, at least, twenty-four hours before eggs are put in. During the period of incubation the eggs should be turned over once a day. The incubator should not be opened or disturbed after the nineteenth day. If it is opened the moisture escapes, the eggs dry up and consequently the chicks are unable to get out of the shell.

Brooding. Brooding is both natural and artificial. The natural method is that of allowing the hen to bring up her own brood of chicks, the artificial being that of using a machine properly heated with hot air or hot water, sufficient to keep the young chicks warm and comfortable. Many people combine these two methods, hatching part of the chicks under hens and part in the machine and when hatched giving all the chicks to the hens. A good-sized motherly hen can take care of 35 or 40 young chicks.

Feeding. The small chicks should not be fed until they are twenty-four hours old. They should have water earlier. They should have but little feed and that given them often. Hard-boiled eggs with toasted bread crumbs moistened in milk makes a good feed for young chicks. A little later they may be given a diet of small seeds such as cracked wheat, cracked corn, millet seeds, etc. They need green feed such as grass. They also need meat feed such as beef scraps or bugs and insects. They will capture these for themselves if given an opportunity.

Housing

The hen house and coops should be kept perfectly clean. Chicks and older poultry are much more healthy when they are not kept in foul, poorly ventilated places. There is no excuse for lice and mites. The solution mentioned above will kill them and keep the house perfectly free from such annoyances if used occasionally in sufficient quantity.

Eighth Grade

The outline is quite specific on the general subject of house and school garden. Any good reference book on horticulture will add much to the interest of this work as well as to the stock of information gained by your pupils. It might be well to get a number of seed house catalogs and go over them. In this way the pupils will become familiar with varieties of

vegetables, fruits and flowers not known before. The last suggestion in the outline is, I believe, a good one, namely, that a small plot should be set aside in the school garden for varieties of farm crop plants such as clovers, alfalfa, the millets, buckwheat, etc. There are too many boys and girls in North Dakota and in some cases even adult farmers who are not familiar with all of these plants. There is no better way to acquaint the pupils with them than to grow a few of the plants in the school garden. I would urge upon you, therefore, Miss Leader, that you have a plot for this purpose. It need not be large. A little space a few feet square will do quite as well as a larger area. If you do not have the seeds and care to write to the Extension Department of the Agricultural College a small quantity of these seeds will be supplied for this purpose. If your pupils have never seen an alfalfa plant, seed a little patch, even tho it be no more than two or three feet square. As the little plants develop they will have an opportunity to become familiar with the type of plant, studying stem, leaves and blossom. Later they may take up some of these and study the root systems. If such an enterprise as this be attempted it will be necessary to prepare the ground in good shape.

Do not plant these seeds in old weedy ground in a poor state of cultivation but rather have it thoroly spaded and worked up. If you are in an area where the soil is too light and apt to dry out it may be necessary to repack the soil in order to get the proper degree of firmness. Then plant the seeds of alfalfa, red clover, the different varieties of millets, varieties of wheat, buckwheat, etc. Some of them are annual plants and as you know make their entire growth during the first season. Others are biennial, requiring two seasons, of which the red clover is a good example. Still others are perennials lasting from year to year. The alfalfa is the best example of this type.

The whole subject of gardening I believe is one that may be crowded full of interest and benefit to your boys and girls.

Trusting the month of April may bring pleasure to the teacher and profit to the pupils, I am,

Yours very truly,

GORDON W. RANDLETT.

BOYS' ACRE YIELD CORN CONTEST

For the past two years an Acre Yield Corn Contest has been held by

the Better Farming Section. Contestants entered from all parts of the state and secured surprising results. The highest acre yield of mature corn was produced both years by Ransom County boys. For the first time in the history of the state an authentic yield of over 100 bushels of mature corn per acre was produced in 1913. High yields were secured in the northern part of the state also, and the average for the sixty prize winners of the state in both years was 61 bushels of mature corn per acre. The contest will be open to farm boys only this year, as it was in 1913. Grown people will not be allowed to participate. Thirty-one state prizes will be distributed. This is in addition to the numerous county prizes which will be offered locally.

Who May Enter

Any farm boy in the state of North Dakota over ten years and under eighteen years of age on July 1st, 1914, may enter this contest. There is no entry fee. Each contestant must raise and care for not less than one acre of corn. As many acres in addition may be grown as the contestant sees fit. Assistance may be given in the plowing of the land by the father or brother, but this work shall be performed in accordance with the wishes of the contestant. All other work should be performed by the contestant. Any variety of corn may be grown, and in the event that more than one acre is grown, the contestant may select any acre lying in one piece to be judged in the competition.

How to Enter the Contest

Send your name, address, and age to the Better Farming Section, Agricultural College, North Dakota, or give it to one of the Better Farming Agents, stating that you want to enter the Acre Yield Corn Contest. Make the entry before June 1, 1914. In entering this contest you will not be barred from any other contest carried on under the direction of the Better Farming Section, whether local, county or state.

Rules Governing Contest

The contest will be decided and prizes awarded on the basis of the largest yield of mature corn produced on a measured acre, as per the following rules:

(1) Boys entering the contest must be between the ages of 10 and 18 years on July 1st, 1914.

(2) Corn must be grown under farm conditions. The use of commercial fertilizers is not allowable, altho farm manures may be used in quantities desired.

(3) Any variety of corn may be used in the contest.

(4) The seed must be furnished by the contestant.

(5) Each contestant must plant his own crop and do the work. Help may be hired for plowing or preparation of the soil.

(6) Instructions sent out as to methods of producing corn must be studied.

(7) The contest will be closed as soon as the corn is mature in the fall.

(8) Corn will be judged by representatives of the Better Farming Section, or by disinterested parties appointed by them.

(9) A history of the methods used in growing the crop, date sown, date mature, etc., not to exceed 500 words in length, must be prepared by each prize winner.

(10) Reports on the crop will be called for twice during the year, and must be sent in before the field will be judged.

Prizes

A total of \$700.00 has been given to the Better Farming Section by several public spirited men in the state to be used as prize money for the winners of the contest. This fund is divided in three parts; a Sweepstakes prize of \$100 for the best yield in the entire state, and a total of \$300 in prizes to be awarded in the northern and southern districts of the state, respectively. In order to avoid so far as possible the difference in latitude and its influence upon yield, the state is divided into a northern and southern district. The northern district is that portion of the state lying north of Township 148, or the northern boundaries of Traill, Steele and Griggs Counties. The contestants in each district will compete by themselves. The prizes to be awarded in each district are as follows:

Prize to be Awarded for the Highest Acre Yields of Mature Corn:

First Prize.....	\$75.00
Second Prize.....	50.00
Third Prize.....	35.00
Fourth Prize.....	25.00
Fifth Prize.....	15.00
Sixth to Fifteenth prizes, inclusive.....	10.00 each

The Sweepstakes prize of \$100 for the state is to be awarded to the boy who secures the highest yield in the state, irrespective of the district where located. Thus the prize winner in the northern or the southern district who secures the largest yield of mature corn per acre, will not only obtain the first prize in his district, but in addition will be awarded the Sweepstakes prize. In the event that the

first prize winners in the two districts produced the same yields, the Sweep Stakes prize will be divided equally.

The Seed

Each contestant must furnish his own seed. No special variety must be planted to enter the contest, but it is advisable to plant the best variety of corn that can be secured in the locality. Northwestern Dent, Minnesota No. 13, Minnesota No. 23, Dakota White Dent, Golden Dent, and the various varieties of flint corn have given excellent results in the different sections of the state. The

former contests have shown that home grown seed of a variety adapted to the locality gives the best results. The highest yields are secured from good stands of corn. These can be obtained by carefully testing the seed so that its germination may be known. A perfect stand of corn, producing a six ounce ear on each of four stalks to the hill, will give a yield to exceed 65 bushels. If one out of five hills is missing, the yield will be reduced one-fifth, or a loss of thirteen bushels. Assure a good stand by careful testing for germination. Plant home grown seed that shows strong germination.

turning under of some leguminous crop, such as cow-peas or Canada field peas, will accomplish the desired result; if the soil is loose and sandy, losing its store of plant food readily, this fault can be remedied by the addition of retentive material, such as clay; the amount of clay to be added must be governed by the degree of stiffness desired in the soil. If, on the other hand, the class of plants to be generally grown is suited to a loose, sandy soil, and it seems desirable to add to the collection a plant, such as plum, which naturally requires a heavy, retentive soil, it would undoubtedly be better to change the character of the plant by grafting it upon a stock adapted to sandy soil conditions than to attempt to modify the soil to suit the plant. We have two alternatives—either the soil may be modified to suit the plant or the plant may be adapted, by working it upon a suitable stock, to the soil. Such modifications in plants are not always easily accomplished, and with many plants there is no alternative but to use them on their own roots. In this latter case the soil itself must be made to conform to the demands of the plants. The soil, in addition to being heavy and retentive, may also be

Fruit Trees and Gardens

THE HOME FRUIT GARDEN: From U. S. Bulletin Preparation and Care

EIGHTH YEAR—EIGHTH MONTH

A fruit garden consists of an assemblage of fruit-bearing trees and shrubs, maintained for the purpose of supplying the family with fruits. In

who can not purchase them because of remoteness from markets, have not established home fruit gardens.

Soil

Since one does not choose the site of his residence on account of the character of the soil of the locality, but because of other natural advantages of the place, it is obvious that



An Ideal Vegetable Garden of Ransom County

its general purposes, then, the fruit garden is intended to accomplish results similar to those of the vegetable garden. In distinction from an orchard, the fruit garden is more restricted in area; it is intended for home rather than market purposes, and consequently comprises a much greater variety of fruits.

Considering the general desire for and appreciation of fruits by people of all classes, it is amazing that even those who have suitable situations and facilities for raising them, and

the soil at the disposal of the grower will frequently be ill-suited to the purposes of a home fruit garden. For a commercial place on an extensive scale it would be out of the question to attempt to alter the character of the soil to suit the needs of the plant, but with a small area the case is quite different. If the soil is heavy it can be lightened with sand if it is not desirable to increase the proportion of humus which it contains; if it is lacking in organic matter the addition of leaf mold and well-rotted manure or the

cold and wet. In such case the addition of sand will not entirely overcome the difficulty.

Planting

At planting time all broken or decayed roots should be cut away, leaving only smooth-cut surfaces and healthy wood to come in contact with the soil. If a large part of the root area of the plant has been lost in transplanting, the top should be cut back in proportion to the roots remaining. By so doing the demand

made by the top when the plant starts into growth can be met by the root.

Setting the plant. The holes in which trees, vines, or shrubs are to be set should be ample, so that the roots of the plant may have full spread without bending them out of their natural course. The earth at the bottom of the holes should be loosened a spade depth below the line of excavation. The soil placed immediately in contact with the roots of the newly set plant should be rich top soil, free from sod or partially decayed organic matter. Firm the soil over the roots by trampling, as this brings the soil particles together and at the same time in close contact with the surface of the roots. A movement of soil water is thus set up and the food supply of the soil brought immediately to the use of the plant. When the operation of transplanting is complete, the plant should stand 1 or 2 inches deeper than it stood in the nursery. Every precaution above enumerated will make for the success of the plant and calls for careful attention.

Pruning

While pruning has to be modified to suit the style of training employed with any given plant, each species of plant bears its fruit in a peculiar manner, which renders the maintenance of wood of a certain age and character necessary in order to secure a crop of fruit.

Apple and pear. In the case of the apple and the pear the fruits are borne upon "spurs" of the previous year's growth only, these spurs appearing on wood one year or more of age. Heading in or shortening each shoot of the season's growth, therefore, must be done with care in order not to reduce the bearing wood beyond a profitable limit. With these two plants, however, the bearing shoots are not those making the most vigorous growth at the ends of the branches, but they are usually more obscurely located upon the sides of the branches, and make a much smaller growth, for which reason they have been termed spurs.

Grape. The grape bears its fruit on shoots of the season, which in turn usually arise from canes of the previous year's growth. Old wood on the grape is therefore of little value; hence the development of so many systems of training which maintain only a single permanent trunk, from the top of which the bearing canes are renewed each year. The so-called "renewal," "high renewal," "Kniffen," "Munson," and various overhead systems of training all possess this feature in common. In fact, it is the only economical way in which to handle

native kinds. For the fruit garden, however, where the vines are desired for covering arbors, pruning must be modified so as to secure a screen from the new growth as early in the season as practicable. For this purpose a modification of the "horizontal-arm" system of training will be found most advantageous. By planting the vines closely and carrying up single trunks to a fixed height, and from the top of the stalk carrying out horizontal arms along which "spurs" are maintained, a short growth from each spur will be sufficient to give a uniform and sufficiently dense canopy of leaves for the arbor.

Raspberry and blackberry. Raspberries and blackberries both bear their fruits on short shoots which arise from canes of the previous season's growth. While these shoots are usually axillary shoots, the fruits are always terminal. In the case of the grape, which bears its fruit upon annual shoots arising from canes of the previous year, the fruit is produced at a node, and takes the place of a leaf; several fruit clusters may therefore arise from a single shoot of the grape.

Currant and gooseberry. In the case of the currant and gooseberry the fruits are produced on both old and new wood; the fruits appear as axillary growths from the shoot itself, and wood 3 years or more of age is unprofitable and should be cut away.

Strawberry. Strawberries are rarely produced in profitable quantities by plants more than one year old. Plants over two years of age should be rooted out to give room for new ones.

THE FARM GARDEN

APRIL—EIGHTH YEAR

W. C. Palmer, Agri. Ed., N. D. A. C.

The garden needs to be considered at this time. Now is the time to determine what to plant and to secure the seeds. By the first of April it will be time to be starting some tomato and cabbage plants in cans or boxes in the house—or in a hotbed will be better yet. It is not very much work to make the hotbed, altho it does take some gumption to get at it. All that is needed is to place a foot of manure, on top of this 3 to 4 inches of soil, and on that a frame that can be covered with a window or two. The storm windows can be used.

Onions, peas and radishes can be planted as soon as the ground can be worked. For early onions plant sets. Another good way is to plant any onions that are not wanted for table use. It is a good idea to plant a few radish seed in the rows with the onion

seed. The onion seed comes up quite slowly. The radishes come up fast and so mark the rows. Do not let the radishes grow too long in the onion row, or they will smother some of the onion seedlings. Beets, carrots, parsnips, lettuce, spinach and a little early sweet corn and potatoes can be planted the first week in May. The main crop of sweet corn and potatoes as well as melons and cucumbers can be planted May 20th to 25th. Cabbage, cauliflower and kohlrabi plants can be set out the first week in May; tomato plants the last in May. Peppers can be set out at this time too.

Everything should be put in rows 3 to 4 feet apart in the garden so it can be cultivated with horse-power. Tomatoes need five feet, and cucumbers and melons, six feet. This reduces the work a great deal. Then again if the vegetables have more space they will not suffer from drouth in case it is dry.

The garden should have a warm place. The south side of a hedge is very good. This is usually good as to moisture too, as the hedge will have stopped the snow here. The soil

The "DANDY" Washer
HAS NO EQUAL!
Easy, Quick, Perfect Work
Direct to User!
Moderate Price!
Write Dandy Manufacturing Co.
Pleasanton, Kansas



FREE
Now is your chance to make your home attractive.
Until April 1st we will tell you free of charge, how this may be done. Write us about any room you want to fix up and how much you want to spend (\$10.00 will do wonders) and until April 1st we will send you free samples of material with information as to price and how to use them.
Write at once. Ask us anything you want to know about fixing up your home and we will gladly give you the benefit of our experience free until April 1st.
SMALL HOUSE DECORATING CO.,
1 Liberty St., New York City

New Jewell Hotel
15-19 E. FIFTH ST.
ST. PAUL, MINN.
OPPOSITE CITY HALL
MODERN EUROPEAN PLAN
LOCATED IN HEART OF BUSINESS DISTRICT
RATES: Rooms with detached bath and shower bath—
One person 75c, \$1.00 and \$1.50 per day.
Two persons in same room, 50c extra.
ROOMS with private baths and toilets—
One person \$1.50 and \$2.00 per day.
Two persons in same room, \$1.00 extra.
Send postal card for colored blotters.
WE AIM TO PLEASE

should be fairly rich. Well-rotted barnyard manure, disced into the soil and plowed under, makes a good seed bed.

The weeds are a problem. One way to reduce this trouble is to rotate the garden. Where the sweet corn and potatoes are grown this year put in the garden next year and the sweet corn and potatoes where the garden was. If the latter are not kept clean this will not help matters any.

Much of the living for the summer can come from the garden.

SIMPLE SIDEWALK CONSTRUCTION FOR THE FARM

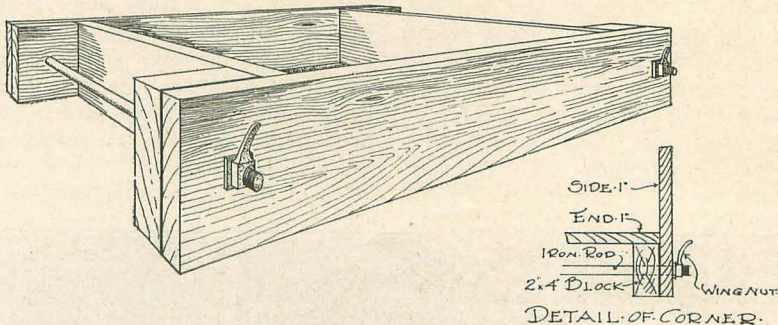
The following is a true description of the situation to be found on many prosperous farms: "A comfortable and well-built house, tastefully furnished. A wide porch affording protection from sun and rain. Substantial barn and outbuildings. Between these buildings run the pathways or walks used many times each day, but on hundreds of farms they are simply thoroughfares of mud during frequent periods but especially in the spring, when the frost is coming out. They are a false and discordant note in an otherwise attractive environment."

Now, the farmer who fails to establish good walks about his premises can no longer plead prohibitive cost or lack of time, and this is the season for him to remedy the situation. It is the purpose to set forth briefly a method of doing this at minimum outlay and by means so easy that it will seem like play to have a substantial walk from building to building, or from the house to the garden—something an intelligent boy of mechanical bent could accomplish.

To put down a concrete walk such as is common in towns and cities, involves more or less experience and requires time and money, tho it would be a good investment if well done. Such walks are far cheaper in the end than any other continuous type equally satisfactory and durable. It so happens, however, that many farmers cannot conveniently undertake the construction of a long walk with the certainty that work will not be interrupted, and walks of this character should be a continuous operation if the most economical results are to be obtained. If the farmer can afford to employ an experienced contractor to do the work, well and good. If not, he should go about it in another way.

Some years ago a firm of enterprising young men engaged in general contracting in a Pennsylvania town of three or four thousand inhabitants.

They noticed that all the little-used streets had board sidewalks. These were constantly rotting away or the ends of the boards would become loose and dangerous, warping with exposure and presenting an obstruction to pedestrians. Numerous complaints and frequent threats of suits for damages were filed with Town Council at



each meeting of that august body. Noting this the young contractors decided that a good opening for increased business was at hand. They did not interfere with the professional sidewalk makers. They simply began the manufacture of concrete slabs and made it a profitable business. A farmer can follow the same plan. The method would be to make a few shallow boxes, each about 3 feet long, 2 feet wide and 4 or 5 inches deep. Then make a concrete composed of 1 part Portland cement, 2 parts clean sand and 4 parts gravel or crushed stone, the stone not larger than three-fourths inch. To make the concrete, first thoroughly mix the cement and sand in the dry state and then add the

water. The stone should also be wet and the whole mass mixed together until of mushy consistency, a consistency that would be called "sloppy." Dump the concrete into the boxes to the depth of an inch or more, puddle and work it, and then on top of this first layer of concrete place common chicken wire cut to the size

of the box. Then fill the box with concrete and just before the latter had taken its final set the surface may be broomed with a circular sweeping motion to give a texture that will prevent people from slipping. The concrete may be removed from the forms or boxes in 4 or 5 days and protected from sun, wind and freezing—as the case may be, and thereafter sprinkled daily for about a week. The result will be a fine slab of indestructible, artificial stone.

Modern sidewalk practice does not always include a drained subbase, as many suppose, but on the contrary many sidewalks put down in the customary way have been successfully built by placing them directly on a



HONORBILT SHOES

Mayer Honorbilt Shoes lead in style and are unapproached in wearing qualities. They look, fit, feel and wear right. They give you the latest style, absolute satisfaction, and genuine comfort. These splendid shoes are not equalled by other shoes selling at anywhere near the same price.

Made for Lasting Service

Only the choicest upper leather, fine oak tanned soles and the best of materials go into Mayer Honorbilt Shoes. They are made to last and hold their shape. Buy Mayer Honorbilt Shoes and get the greatest shoe values obtainable.

WARNING— Always be sure and look for the Mayer name and trade mark on the sole. If your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes in all styles for men, women and children: Drysox, the wet weather shoe; Yerma Cushion Shoes; and Martha Washington Comfort Shoes.



HONORBILT

F. Mayer Boot & Shoe Co.
MILWAUKEE



For Men
Women and
Children

compact earth surface. The farmer can lay slabs on a natural base where the soil is at all suitable. This plan means that he may make just as few or as many slabs as he has time to make, once he has procured the raw materials. He could soon fill a half-dozen 3-foot molds and thus have 18 feet of walk in the forms, which could be refilled the moment the first lot was removed, or at any convenient time. In brief, he would be making so much concrete lumber, which could be distributed quickly and easily, in fact in less time than would be required to put down a well-made boardwalk.



In making his walks, the farmer need not confine the dimensions of the slab to those given above. If he prefers a longer and wider slab, it can easily be made. The first illustration shows the surface texture of a concrete slab of the above dimensions and the second is a drawing of a simple type of form in which slabs may be conveniently cast.

Concrete walks of this character would not only last for all time, but could be conveniently changed to other locations or extended without the necessity of digging and filling a foundation, erecting side forms or cutting joints. Like the concrete road, which has become a veritable boon to every farming community fortunate enough to be in touch with one, the slab walk could of itself accumulate neither mud nor dust, would grow stronger with age and exposure and contribute immensely to the comfort and convenience of its users.

A BOY'S BED ROOM

Somewhat it is difficult to think of a bed room in connection with a boy.

When you speak of a girl's bed room, a vision of fluffs, and soft things, and pale colors rises before you; but with a boy things must be quite different.

Since bed room is a term which can be associated with a real boy, the best thing to do is to make the place where he sleeps look as little as possible like a conventional bed room.

This is very easily done, and the boy is made supremely happy by having what he calls a den—a place where he can ask other fellows to come and spend rainy, dreary afternoons, when it is too bad outside even for foot-ball practice.

There should be nothing in a boys'

the legs and tied underneath with tapes.

Plain tan tinted walls, or tan paper with a small figure is good for a boy's room. But it is well to let him choose the color himself and then you can make the rest of the room in keeping.

White or net curtains in a boy's room are a mistake. It is well to put at the windows side hangings of denim or burlap. These are durable and attractive and give the room the appearance of a den.

The best rugs for boys' rooms are those woven of the scraps of old carpets. These are durable, very good looking and do not show mud or dirt of any kind.

It is well to have a boy's room as attractive and artistic as possible under given circumstances. But what is infinitely more important is to let a boy have what he wants. Let him carry out his ideas as they are. They may be atrocious but even if they are, he will be happier in a room that is the expression of his own taste. And if you are careful to have the rest of his home in good taste he will gradually leave the old ideas of what is pretty and come into a truer sense of real beauty. In that case he has developed something that will enrich his whole life.

GASOLINE ENGINES FOR OPERATING BINDERS

It would seem that the gasoline engine is just coming into its own as a farm power. New uses are constantly being found. One of the most important of these is the rapidly growing practice of using the gasoline engine to operate grain binders.

Cutting and binding grain has always been a horse killing job. The binder itself is a very heavy machine. Pulling it over the soft soil of the grain fields is all that should be expected of a team of horses. But the real work for the team comes from operating the binding machinery. The horses not only have to draw the machine, but to generate power to keep the whole complicated mechanism in motion. Complete relief from his last, the most slavish part of the work, is afforded by the gasoline engine.

A few years ago a gasoline engine on a grain binder was a thing unheard of. But the gasoline engine has developed and people have learned that there is a much wider field for it than was formerly supposed.

We are able to reproduce here through the courtesy of the Cushman Motor Works an excellent illustration of a gasoline engine operating a binder in

bed room that is easily soiled or wrinkled. Never buy a bed for a boy. Get instead one of those iron couches with good springs, over which in the day time, a piece of burlap or denim can be thrown, or better still if you have one, a Bagdad curtain. Have a few sofa cushions on this covered with solid colors that harmonize and your boy has a real divan on which his friends can lounge and read or talk.

There should also be a table in a boy's room—just as large as the room can stand. The table cover should be made of the same stuff as the sofa cushions and should be tied on under the legs with tapes. On this table there should be a simple lamp like a standard oil lamp, that throws a strong steady light. A boy will study better when he does not have to struggle with a poor light.

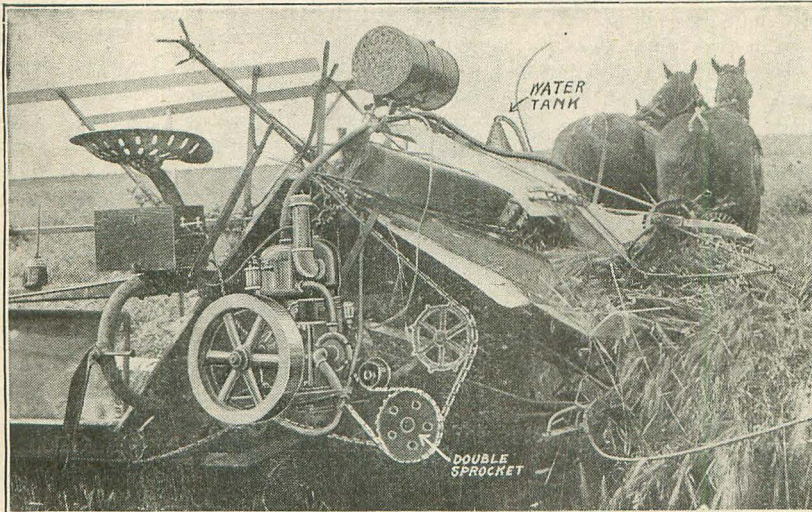
The chairs matter very little. A boy can make himself comfortable even on a stool. Plain kitchen chairs will do and they can be made pretty by putting covers like pillow cases made to fit over the backs and the seats covered with a square piece of the same stuff cut out to fit around

the oats harvest in Canada. This represents a familiar scene in many sections of this country.

The gasoline engine on the binder is a very live subject right at this time. The argument seems to be altogether in favor of its use. The cost of operating is very low—25 cents to 50 cents for a full day's binding, covering 15 to 25 acres. The Cushman Motor

Punch a hole in the center of the bottom and insert a knob which can be bought for a trifle (such as are used on a teakettle cover), or lacking this, a small twist spool or half an ordinary cotton spool held on with a stove bolt, will answer the purpose of a handle. Handles put on inverted pie-tins in the same way make good covers for kettles when boiling corn and other

waxed dental floss doubled. It is very strong and at the same time can be threaded into a fine needle. It is also excellent for sewing on buttons, having a limited capacity for thread. Three or four threads of that being as strong as a dozen of ordinary thread.



Works, 2009 N. St., Lincoln, Nebr., will be glad to give full information on using engine power for operating the binder to any one interested. The use of an engine on the binder has passed the experimental stage. The farmer will be wise who does not put off the matter until harvest time.

HINTS FOR HOME USE

An exchange tells us that a very satisfactory method of bleaching and keeping white fine white goods and lingerie is by the use of peroxide of hydrogen. Use one teaspoonful of peroxide to half a tub of water; let the clothes soak in this over night, rinse out and wash in the usual manner. This applies to silk and wool as well as linen and is positively harmless.

Many are acquainted with the manner of freshening velvet by placing a damp cloth over a hot flat-iron and drawing the velvet slowly over the steaming cloth. The holding of the flat-iron is difficult. By using a small board with a slit in it just large enough to let the handle of the flat-iron pass thru and placing it across a pan or box to hold it firm there is less danger of burning oneself.

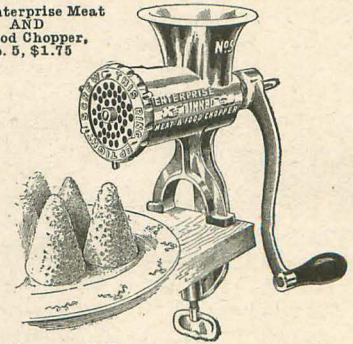
Very convenient covers for cakes or other eatables to be left for a time on a plate can be made of tin pans.

vegetables as they allow more room than the flat cover.

In working French knots the thread often tangles. Try twisting the thread around the needle one way for one knot and the other way for the next one. This keeps the thread straight.

The universal use of strings of beads at the present makes a strong, fine thread a necessity. Try using

Enterprise Meat AND Food Chopper, No. 5, \$1.75



Spend Less Time in the Kitchen

Hours you spend preparing the meals can be reduced to minutes, and you can have dishes more tempting and of much greater variety, if you will let an

ENTERPRISE Meat AND Food Chopper

help you. Or if you make sausage for yourselves or for sale, you will surely want this easy turning, fast cutting chopper. It is the one chopper that gives the chopping cut—does not squeeze, mangle or crush. It really CHOPS meat and other food into tender morsels delightful to the taste, making easy the preparation of the most flavorful and appetizing dishes. No other chopper is to be compared to this machine.

The Enterprise Food Chopper is a lower-priced machine that has proved very popular. Prices range from \$1.25 to \$2.25. At the price it has no equal.

Perhaps you do not realize what a great help these machines are. Then send 4c for "The Enterprising Housekeeper," a 200-recipe book that will relieve you of the worry of what to have on your table. Every recipe has been fully tested.

Ask your dealer to show you these machines.

THE ENTERPRISE MFG. CO. of PA.
Dept. 32 Philadelphia, Pa.

When You Buy "Ball-Band" Rubber Footwear You Buy Dry, Comfortable Feet

The cold, wet ground becomes like a carpet of wool and rubber to the man who wears "Ball-Band" Boots or Arctics. "Ball-Band" Footwear gives long wear and stands up under rough service. It is made for the man who wants the best rubber footwear he can get. Boots in knee, storm king, sporting and hip lengths.



The cost of rubber footwear never worries the man who is careful to get "Ball-Band." That Red Ball on the knee of your boot or the sole of your arctic means that the men who made it were building up to a standard, not down to a price.

Over 45,000 dealers sell "Ball-Band." A Red Ball in the window is the sign of a "Ball-Band" store. Look for it. Buy your rubber footwear where you find it. If your dealer can't supply, write us.

Write for Free Illustrated Booklet

Mishawaka Woolen Mfg. Co., 324 Water Street, Mishawaka, Ind.
"The House That Pays Millions for Quality"



Seasonable Receipts

SALMON AS A CHEAP FOOD

The Department of Commerce gives us the following information regarding the food value of salmon, also the accompanying receipts which have been selected from the fifty tested receipts given in Economic Circular No. 11:

The cheapest food is that which supplies nutriment at the lowest cost. One pound of canned red salmon of the best quality will cost about 16 cents. (These are the prevailing prices in Washington, D. C. and will, of course, vary somewhat in different localities.) The same quantity of bone, muscle, blood, and brain building material and body fuel in other foods would cost—

	Cents.
Eggs, strictly fresh (at 34 cents per dozen).....	36
Steak, sirloin (at 27½ cents per pound).....	33
Mutton, leg (at 19 cents per pound).....	32
Chicken, average (at 25 cents per pound).....	21½
Ham, smoked (at 18½ cents per pound).....	13½
Pink salmon, canned (at 9 cents per can).....	12½

Ham is apparently cheaper than the other meats because it contains more fat or fuel, the cheapest of nutritive ingredients, which can be supplied more cheaply by the vegetable food which should accompany the meats or fish.

All species of the Pacific coast salmon are canned, all are highly nutritious, and, so far as the canned products are concerned, they differ from one another principally in the color and relative firmness of the flesh and the proportions of fats. The chinook has an excellent flavor and generally red flesh; the sockeye, or red salmon, equals it in flavor and is always red fleshed; the coho, or medium red salmon, has an excellent flavor but is paler in color; the humpback, or pink salmon, is still paler and its flesh softer; and the chum salmon is quite pale, soft when canned, and its flavor is inferior to any of the others.

The best grades of canned salmon are richer than meats in body-building materials and contain about the same amount of fats. Pink salmon, which is a cheaper grade, is better than meats for making flesh and bone, but has less fat. Either is as digestible as

the best sirloin steak, there is no waste, and nothing has to be thrown away except the can.

To reduce the cost of living, eat more salmon, especially of the cheaper grades, and less meat. Meats spoil quickly in the home. Canned salmon will keep indefinitely if unopened.

Meats are inspected, but they are handled by many persons after inspection and are exposed in the market places. Canned salmon is sealed against contamination, and from the time that the fish enter the cannery fresh from the cold waters in which they were taken, are washed, and delivered to the "iron chink" which butchers them, those packed in tall cans are practically untouched by the hand of man. Flat cans are packed by hand, but under the most sanitary conditions. The "iron chink" cuts off the heads, tails, and fins, dresses the fish at the rate of 3,000 fish per hour, and delivers them to a mechanical conveyer, on which they are thoroly washed as they are conducted to the machine which cuts them in pieces to fit the sanitary solderless cans into which they are to be packed. No foreign or objectionable matter enters the tins, and the fish are thoroly sterilized by cooking after the cans are sealed.

SALMON RECEIPTS

Salmon Salad

Flake one can of salmon fine, one cup of cabbage cut fine, one cup of celery cut fine, sprinkle a pinch of salt, dash of paprika; mix lightly and chill them. Mix with mayonnaise dressing. Serve on lettuce leaves.

Salmon Salad Sandwiches

One pound can of salmon, one tablespoonful of any preferred salad dressing, two tablespoonfuls of finely chopped cucumber pickles (sour), one teaspoonful of grated onion or onion juice, one-half teaspoonful mixed salt and pepper. Mix thoroly and spread between thin slices of bread.

Salmon loaf with rice

One can of salmon; two cups hot boiled rice (one cup before being cooked); two eggs beaten; two tablespoonfuls melted butter; juice of half a small lemon; salt and pepper to taste; add liquor from salmon can and mix ingredients lightly with a fork; bake in a covered pan set in water one hour in a moderate oven; serve with tomato sauce made by

straining and slightly thickening a cup of canned tomatoes well seasoned. Peas, either fresh or canned, may be used instead of the rice, in which case serve with a cream sauce. This may be steamed an hour instead of baked.

Baked salmon loaf

One can salmon, one pint of mashed potatoes, one cup browned cracker crumbs, two cups of parsley sauce. Grease a good-sized mold with butter, sprinkle with cracker crumbs, and line with mashed potatoes. Drain oil from salmon and remove skin and bones. Season with pepper and salt and pack in mold. Cover with potatoes and then cracker crumbs, put a few pieces of butter on top, and bake one-half hour in fairly hot oven. Turn out and pour parsley sauce over.

Baked Creamed Salmon with Spaghetti

One can of salmon, one-half pound of spaghetti broken fine, butter size of egg, one pint of milk, two eggs. Boil spaghetti in salted water until tender, drain in a colander, and pour cold water thru it; grease baking dish and put layer of spaghetti, layer of salmon, bits of butter and pepper; continue until all is used. Beat eggs, add milk, and pour over and bake 45 minutes. Serve with or without white sauce.

Salmon with White Sauce

One large-sized can of salmon. Heat the salmon and put on platter in one piece if possible. Make white sauce and pour over the salmon. Have three eggs hard boiled and slice over top. Garnish with parsley.

BAKER'S COCOA Is Good Cocoa



Of fine quality, made from carefully selected high-grade cocoa beans, skilfully blended, prepared by a perfect mechanical process, without the use of

chemicals or dyes. It contains no added potash, possesses a delicious natural flavor, and is of great food value.

WALTER BAKER & CO. Limited
Established 1780 DORCHESTER, MASS.

Five Magazines

North Dakota Farmer
Farm and Fireside
Woman's World
Poultry Success
The Household
ALL ONE YEAR

75 CENTS

Sent to one address or separate addresses. Why not send greetings all the year round to five of your friends?

Induce one of your neighbors to take this club and receive a set of 25 Panama Canal Post Cards.
THIS IS YOUR CHANCE

North Dakota Farmer, Lisbon



Precious Metals Ground in Linseed Oil

THAT'S what Horse Shoe Brand House Paint is: every gallon of it is strictly pure lead and zinc ground in strictly pure linseed oil.

It's a fact; and when your house puts on a coat of Mound City House Paint it fronts the world, so to speak, in cream, or gray, or tan, or white armor plate.

Strictly pure zinc makes up what lead lacks: strengthens where lead is weak—is harder—whiter—more clear—and beautiful.

White lead is just what its name implies, metal—soft metal, of great covering power.

Strictly pure linseed oil is the liquid that binds these natural partners together.

Zinc takes more oil to the pound than lead, and, because "oil is the life of paint" lead plus zinc makes the best paint known.

Baser metals are sometimes used in paints, but their value is unproved—and unless you are willing to lend your two or three-thousand-dollar house as a subject for experiment—better keep on the safe side and buy Mound City Horse Shoe Brand House Paint, which is made of really precious metals, in right proportions, and rightly ground in pure aged linseed oil.

Mound City Paint & Color Co.

Good Makers of Good Paints

ST. LOUIS, U. S. A.

NORRIS B. GREGG, Pres.

WM. H. GREGG, JR., Vice-Pres.

E. H. DYER, Sec